Devi S.
09/359426

Seq IDs 1 & 2

FILE 'REGISTRY' ENTERED AT 09:19:27 ON 01 MAR 2002
L1 1 S EEK..L[7.]VV.NA | EEKTPLTTAA.APVV.NA/SQSP

L1 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2002 ACS
RN 211046-36-5 REGISTRY
CN Peptide, (Glu-Glu-Lys-Thr-Pro-Leu-Thr-Thr-Ala-Ala-Xaa-Ala-Pro-Val-Val-Xaa-Asn-Ala) (9CI) (CA INDEX NAME)
CI MAN
SQL 18

SEQ 1 EEKTPLTTAA XAPVVXNA
========== ========
HITS AT: 1-18

REFERENCE 1: 129:160619

FILE 'CAPLUS' ENTERED AT 09:20:16 ON 01 MAR 2002
L2 1 S L1

L2 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1998:527345 CAPLUS
DOCUMENT NUMBER: 129:160619
TITLE: Pseudomonas aeruginosa antigen
INVENTOR(S): Cripps, Allan William; Kyd, Jannelle; Dunkley, Margaret; Clancy, Robert Llewellyn
PATENT ASSIGNEE(S): Auspharm International Limited, Australia; Chapman, Paul, William
SOURCE: PCT Int. Appl., 23 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9832769	A1	19980730	WO 1998-GB217	19980126
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
ZA 9800587	A	19990723	ZA 1998-587	19980123
AU 9857717	A1	19980818	AU 1998-57717	19980126
EP 980389	A1	20000223	EP 1998-901378	19980126
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 2001511125	T2	20010807	JP 1998-531741	19980126

PRIORITY APPLN. INFO.: GB 1997-1489 A 19970124
WO 1998-GB217 W 19980126

AB A novel antigen from P. aeruginosa is provided. The use of the antigen in detecting/diagnosing P. aeruginosa as well as its use in eliciting an immune response are also provided.
IT **211046-36-5D**, derivs.

Searcher : Shears 308-4994

RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(Pseudomonas aeruginosa antigen for diagnosing and treating Pseudomonas aeruginosa infection in cystic fibrosis patients)

-key terms

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L3        11252 SEA FILE=CAPLUS ABB=ON  PLU=ON  OMP OR OPR# OR MOMP OR
                OUTER(W)MEMBRAN?(W)PROTEIN
L4          423 SEA FILE=CAPLUS ABB=ON  PLU=ON  L3(S)AERUGIN?
L5           26 SEA FILE=CAPLUS ABB=ON  PLU=ON  L4(S)ANTIGEN?


=> s l5 not l2
L6           26 L5 NOT L2
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L6 ANSWER 1 OF 26 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 2001:617858 CAPLUS
DOCUMENT NUMBER: 135:194461
TITLE: Th1 inducing natural adjuvant for heterologous antigens
INVENTOR(S): Revets, Hilde; Cornelis, Pierre; De Baetselier, Patrick
PATENT ASSIGNEE(S): Vlaams Interuniversitair Instituut Voor Biotechnologie Vzw, Belg.
SOURCE: PCT Int. Appl., 53 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001060404	A2	20010823	WO 2001-EP1673	20010213
WO 2001060404	A3	20020110		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: EP 2000-200589 A 20000218

AB The present invention relates to the use of the major **OprI** lipoprotein of Pseudomonas **aeruginosa** to elicit a Type-1 immune response towards a heterologous **antigen**. The invention relates specifically to the use of OprI-antigen fusion proteins to elicit said Type-1 response. More particularly, the present invention is directed to pharmaceutical formulations comprising OprI and/or OprI fusion proteins, optionally together with a suitable excipient, to stimulate the Th1 dependent, cellular immune response.

L6 ANSWER 2 OF 26 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 2001:309967 CAPLUS

DOCUMENT NUMBER: 135:75462
TITLE: Protection against Pseudomonas aeruginosa chronic lung infection in mice by genetic immunization against outer membrane protein F (OprF) of P. aeruginosa
AUTHOR(S): Price, Brian M.; Galloway, Darrell R.; Baker, Neil R.; Gilleland, Linda B.; Staczek, John; Gilleland, Harry E., Jr.
CORPORATE SOURCE: Department of Microbiology, The Ohio State University, Columbus, OH, 43210, USA
SOURCE: Infect. Immun. (2001), 69(5), 3510-3515
CODEN: INFIBR; ISSN: 0019-9567
PUBLISHER: American Society for Microbiology
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The Pseudomonas **aeruginosa** major constitutive outer membrane porin protein **OprF**, which has previously been shown to be a protective **antigen**, was targeted as a DNA vaccine candidate. The oprF gene was cloned into plasmid vector pVR1020, and the plasmid vaccine were delivered to mice by biolistic (gene gun) intradermal inoculation. Antibody titers in antisera from immunized mice were detd. by ELISA, and the elicited antibodies were shown to be specifically reactive to OprF by immunoblotting. The IgG (IgG) immune response was predominantly of the IgG1 isotype. Sera from DNA vaccine-immunized mice had significantly greater opsonic activity in opsonophagocytic assays than did sera from control mice. Following the initial immunization and two consecutive boosts, each at 2-wk intervals, protection was demonstrated in a mouse model of chronic pulmonary infection by P. aeruginosa. Eight days post-challenge, both lungs were removed and examd. A significant redn. in the presence of severe macroscopic lesions, as well as in the no. of bacteria present in the lungs, was seen. Based on these findings, genetic immunization with oprF has potential for development as a vaccine to protect humans against infection by P. aeruginosa.

REFERENCE COUNT: 55 THERE ARE 55 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 3 OF 26 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1999:241035 CAPLUS
DOCUMENT NUMBER: 131:86596
TITLE: A recombinant hybrid outer membrane protein for vaccination against Pseudomonas aeruginosa
AUTHOR(S): Knapp, Bernhard; Hundt, Erika; Lenz, Uwe; Hungerer, Klaus-Dieter; Gabelsberger, Josef; Domdey, Horst; Mansouri, Erfan; Li, Yuanyi; Von Specht, Bernd-Ulrich
CORPORATE SOURCE: Chiron Behring GmbH and Co., Marburg, 35006, Germany
SOURCE: Vaccine (1999), 17(13-14), 1663-1666
CODEN: VACCDE; ISSN: 0264-410X
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Among the numerous targets which can be used for the development of vaccines against Pseudomonas aeruginosa we focused on the outer membrane proteins OprF and OprI. The C-terminal part of OprF from

aa 190 to aa 350 was investigated for its conservation and its localization of B-cell epitopes. A hybrid protein which combines the protective epitopes of OprF and OprI was expressed in E. coli and was proven to be highly protective against an i.p. challenge with P. aeruginosa by active immunization of immunocompromised mice as well as by passive immunization of SCID mice with specific antisera. A purifn. procedure of the N-terminal His-tagged hybrid antigen was established using immobilized-metal-affinity chromatog. To evaluate its safety and immunogenicity, the recombinant protein was purified for the immunization of human volunteers. The OprF/OprI hybrid protein is considered to be a candidate for a vaccine against P. aeruginosa.

REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 4 OF 26 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1999:153595 CAPLUS
DOCUMENT NUMBER: 130:324106
TITLE: Safety and immunogenicity of a Pseudomonas aeruginosa hybrid outer membrane protein F-I vaccine in human volunteers
AUTHOR(S): Mansouri, Erfan; Gabelsberger, Josef; Knapp, Bernhard; Hundt, Erika; Lenz, Uwe; Hungerer, Klaus-Dieter; Gilleland, Harry E., Jr.; Staczek, John; Domdey, Horst; Von Specht, Bernd-Ulrich
CORPORATE SOURCE: Chirurgische Universitatsklinik der Universitat Freiburg, Freiburg, D-79106, Germany
SOURCE: Infect. Immun. (1999), 67(3), 1461-1470
CODEN: INFIBR; ISSN: 0019-9567
PUBLISHER: American Society for Microbiology
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A hybrid protein [Met-Ala-(His)6OprF190-342-OprI21-83] consisting of the mature outer membrane protein I (OprI) and amino acids 190 to 342 OprF of Pseudomonas aeruginosa was expressed in Escherichia coli and purified by Ni2+ chelate-affinity chromatog. After safety and pyrogenicity evaluations in animals, four groups of eight adult human volunteers were vaccinated i.m. three times at 4-wk intervals and revaccinated 6 mo later with either 500, 100, 50, or 20 .mu.g of OprF-OprI adsorbed onto Al(OH)3. All vaccinations were well tolerated. After the first vaccination, a significant rise of antibody titers against P. aeruginosa OprF and OprI was measured in volunteers receiving the 100- or the 500-.mu.g dose. After the second vaccination, significant antibody titers were measured for all groups. Elevated antibody titers against OprF and OprI could still be measured 6 mo after the third vaccination. The capacity of the elicited antibodies to promote complement binding and opsonization could be demonstrated by a C1q-binding assay and by the in vitro opsonophagocytic uptake of P. aeruginosa bacteria. These data support the continued development of an OprF-OprI vaccine for use in humans.

REFERENCE COUNT: 56 THERE ARE 56 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 5 OF 26 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1997:358731 CAPLUS

DOCUMENT NUMBER: 127:107743
TITLE: A hybrid **outer membrane protein antigen** for vaccination against Pseudomonas **aeruginosa**
AUTHOR(S): Gabelsberger, J.; Knapp, B.; Bauersachs, S.; Lenz, U.; Von Specht, B. U.; Domdey, H.
CORPORATE SOURCE: Inst. Biochemie, Ludwig-Maximilians-Univ., Munich, D-81377, Germany
SOURCE: Behring Inst. Mitt. (1997), 98(New Approaches to Bacterial Vaccine Development), 302-314
CODEN: BHIMA2; ISSN: 0301-0457
PUBLISHER: Medizinische Verlagsgesellschaft mbH
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A hybrid protein contg. parts of the outer membrane proteins OprF and OprI from P. aeruginosa was expressed in Escherichia coli using distinct modifications which have not to be eliminated after its expression. Using different signal peptides, the yield of the hybrid protein OprF-OprI in E. coli was increased to 30% of the total cell protein, but only a very small amt. of the hybrid preprotein was processed and could be isolated from the periplasm of the host. A construct contg. a N-terminal extension of 11 amino acids from the original OprF gene gave rise to a higher expression in the cytoplasm. Purifn. was facilitated by the addn. of a 5 His tag at the C-terminus. An even higher expression was obtained by a construct in which a 6 His tag was attached to the N-terminus of the hybrid protein. The N-terminal extended OprF-OprI as well as the N-terminal His-tagged OprF-OprI hybrid antigens were purified by immobilized-metal affinity chromatog. under native and denaturing conditions.

L6 ANSWER 6 OF 26 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1996:543256 CAPLUS
DOCUMENT NUMBER: 125:190197
TITLE: Analysis by flow cytometry of surface-exposed epitopes of outer membrane protein F of Pseudomonas aeruginosa
AUTHOR(S): Hughes, Eileen E.; Matthews-Greer, Janice M.; Gilleland, H. E., Jr.
CORPORATE SOURCE: Dep. of Microbiology and Immunology, Louisiana State Univ. Medical Center, Shreveport, LA, 71130-3932, USA
SOURCE: Can. J. Microbiol. (1996), 42(8), 859-862
CODEN: CJMIAZ; ISSN: 0008-4166
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Antisera were produced in mice immunized with 18 synthetic peptide conjugates representing various regions throughout the length of the outer membrane protein F mol. of Pseudomonas aeruginosa and analyzed by flow cytometry to identify those antisera capable of binding to the surface of whole cells of P. aeruginosa. Antibodies to peptides 9, 18, 10, and 4 were significantly cell-surface reactive. The max. median percentage of antibody-binding cells in this assay was 36.6%. Over six different detns., peptide 9 antisera binding to the cells ranged from 16.9 to 57.0% of the cell population. We propose that the surface accessibility of protein F epitopes varies during the cell cycle.

L6 ANSWER 7 OF 26 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1996:494165 CAPLUS
DOCUMENT NUMBER: 125:140540
TITLE: Immunogenic hybrid protein oprF-oprI derived from Pseudomonas aeruginosa membrane proteins
INVENTOR(S): Knapp, Bernhard; Hungerer, Klaus-Dieter; Broeker, Michael; Von Specht, Bernd Ulrich; Domdey, Horst
PATENT ASSIGNEE(S): Behringwerke Aktiengesellschaft, Germany
SOURCE: Eur. Pat. Appl., 23 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 717106	A1	19960619	EP 1995-118098	19951117
EP 717106	B1	20000315		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, NL, PT, SE				
AT 190657	E	20000415	AT 1995-118098	19951117
AU 9540419	A1	19960627	AU 1995-40419	19951214
US 5955090	A	19990921	US 1995-572447	19951214
CA 2165401	AA	19960617	CA 1995-2165401	19951215
JP 08245699	A2	19960924	JP 1995-329154	19951218
US 6300102	B1	20011009	US 1999-267747	19990310

PRIORITY APPLN. INFO.: EP 1994-120023 A 19941216
US 1995-572447 A3 19951214

AB The present invention relates to a hybrid protein comprising the Pseudomonas aeruginosa outer membrane protein I (Oprl) which is fused with its amino terminal end to the carboxy-terminal end of a carboxy-terminal portion of the Pseudomonas aeruginosa outer membrane protein F (OprF), as well as to monoclonal or polyclonal antibodies against this hybrid protein. Both, the hybrid protein and the antibodies directed to the hybrid protein and the antibodies directed to the hybrid protein confer protection against an infection by Pseudomonas aeruginosa to lab. animals or man.

L6 ANSWER 8 OF 26 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1996:480805 CAPLUS
DOCUMENT NUMBER: 125:139943
TITLE: The development of the Pseudomonas **aeruginosa outer membrane protein OprF** as a presentation vector for foreign **antigenic** determinants
AUTHOR(S): Wong, Rebecca Suk Yi
CORPORATE SOURCE: Univ. of British Columbia, Vancouver, BC, Can.
SOURCE: (1995) 198 pp. Avail.: Univ. Microfilms Int., Order No. DANN06084
From: Diss. Abstr. Int., B 1996, 57(3), 1705
DOCUMENT TYPE: Dissertation
LANGUAGE: English
AB Unavailable

L6 ANSWER 9 OF 26 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1996:395288 CAPLUS
DOCUMENT NUMBER: 125:112223
TITLE: The effect of the length of a malarial epitope on its **antigenicity** and immunogenicity in an epitope presentation system using the Pseudomonas **aeruginosa outer membrane protein OprF** as the carrier
AUTHOR(S): Wong, Rebecca S. Y.; Hancock, Robert E. W.
CORPORATE SOURCE: Department of Microbiology and Immunology, #300-6174 University Boulevard, University of British Columbia, Vancouver, B.C. V6T 1Z3, Can.
SOURCE: FEMS Microbiol. Lett. (1996), 140(2-3), 209-214
CODEN: FMLED7; ISSN: 0378-1097
DOCUMENT TYPE: Journal
LANGUAGE: English
AB This study showed that the **antigenicity** of a malarial epitope increased with the length of the epitope when inserted at positions aa26 (amino acid position 26) and aa196, but not at aa 213, of the Pseudomonas **aeruginosa** major **outer membrane protein OprF** (326 amino acids). Immunization studies showed that a 19-aa epitope was more immunogenic than a 7-aa epitope when inserted at aa26 of OprF, while neither an 11- nor a 19-aa epitope fused to the C-terminus of glutathione S-transferase was immunogenic.

L6 ANSWER 10 OF 26 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1996:7995 CAPLUS
DOCUMENT NUMBER: 124:111598
TITLE: Identification of **outer membrane proteins** as target **antigens** of Pseudomonas **aeruginosa** homma serotype M
AUTHOR(S): Yokota, Shin-Ichi
CORPORATE SOURCE: Sumitomo Pharmaceuticals Research Center, Konohana, 554, Japan
SOURCE: Clin. Diagn. Lab. Immunol. (1995), 2(6), 747-52
CODEN: CDIMEN; ISSN: 1071-412X
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Pseudomonas aeruginosa is routinely serotyped in Japan by using the Homma scheme. The serotypes (O serotypes) are based on the chem. structure of the O-polysaccharide portion of the lipopolysaccharide (LPS). However, the nature of the Homma serotype M antigen has remained obscure because strains classified as serotype M usually have the rough phenotype. The target antigen of serotype M was characterized. The results of Western blotting (immunoblotting) showed that com. available typing monoclonal antibody (MAb) against serotype M specifically bound to outer membrane protein (Opr) G and that typing rabbit antiserum specific for serotype M mainly contained antibodies against Oprs F and H2. These Oprs were distributed among all P. aeruginosa strains tested, including the serotype std., serotype M and nontypeable strains, and a series of LPS-core-defective mutants derived from strain PAC1. However, the rough mutants derived from strain PAC1 agglutinated with the anti-serotype M antibodies, whereas the smooth strains did not. LPS prepns. from serotype M strains possessed few or no polysaccharide

chains. These strains had higher levels of binding activity with anti-serotypes M MAb, as well as with anti-lipid A MAb, which specifically bound to the cell surface of the rough-natured gram-neg. bacterial strains with high activity. The anti-serotype M antiserum also contained rough-LPS-specific antibodies, but the epitope was distributed among only a few strains. The results suggested that the Oprs acted as the serotype M antigen and that LPS did not. In conclusion, the rough strains agglutinated with anti-Opr antibodies and were distinguished as serotype M from the smooth strains of other serotypes, because the antibodies were accessible to the cell surface lacking O polysaccharides. Presumably, Homma serotype M is an index of the rough nature of P. aeruginosa strains rather than one of the O serotypes.

L6 ANSWER 11 OF 26 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1995:860526 CAPLUS
DOCUMENT NUMBER: 124:3499
TITLE: Use of synthetic peptides to identify surface-exposed, linear B-cell epitopes within outer membrane protein F of Pseudomonas aeruginosa
AUTHOR(S): Gilleland, Harry E., Jr.; Hughes, Eileen, E.; Gilleland, Linda B.; Matthews-Greer, Janice M.; Staczek, John
CORPORATE SOURCE: Department of Microbiology and Immunology, Louisiana State University Medical Center, Shreveport, LA, 71130-3932, USA
SOURCE: Curr. Microbiol. (1995), 31(5), 279-86
CODEN: CUMIDD; ISSN: 0343-8651
DOCUMENT TYPE: Journal
LANGUAGE: English
AB In a previous study (Hughes E. E., Gilleland L. B., Gilleland HE Jr. [1992] Infect Immun 60:3497-3503), ten synthetic peptides were used to test for surface-exposed **antigenic** regions located throughout the length of **outer membrane protein** F of Pseudomonas **aeruginosa**. An addnl. nine peptides of 11-21 amino acid residues in length were synthesized. Antisera collected from mice immunized with each of the 19 synthetic peptides conjugated to keyhole limpet hemocyanin were used to det. which of the peptides had elicited antibodies capable of reacting with the surface of whole cells of the various heterologous Fishder-Devlin immunotypes of P. aeruginosa. Cell surface reactivity was measured by an ELISA (ELISA) with whole cells of the various immunotypes as the ELISA antigens and by opsonophagocytic uptake assays with the various peptide-directed antisera, immunotype 2 P. aeruginosa cells, and polymorphonuclear leukocytes of human and murine origin. Three peptides located in the carboxy-terminal portion of protein F elicited antibodies with the greatest cell-surface reactivity. Peptide 9 (TDAYNQKLSERRAN), PEPTIDE 10 (NATAEGRAINRRVE), and peptide 18 (NEYG-VEGGRVNAVG) appear to have sufficient potential for further development as vaccine candidates for immunoprophylaxis against infections caused by P. aeruginosa. A topol. model for the arrangement of protein F within the outer membrane of P. aeruginosa is presented.

L6 ANSWER 12 OF 26 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1995:694637 CAPLUS
DOCUMENT NUMBER: 123:282968

TITLE: Pseudomonas **aeruginosa outer membrane protein OprF** as an expression vector for foreign epitopes: the effects of positioning and length on the **antigenicity** of the epitope
AUTHOR(S): Wong, Rebecca S. Y.; Wirtz, Robert A.; Hancock, Robert E. W.
CORPORATE SOURCE: Dep. Microbiol. Immunol, Univ. British Columbia, Vancouver, BC, V6T1Z3, Can.
SOURCE: Gene (1995), 158(1), 55-60
CODEN: GENED6; ISSN: 0378-1119
DOCUMENT TYPE: Journal
LANGUAGE: English
AB OprF, the major outer membrane (OM) protein of Pseudomonas aeruginosa, has been proposed to be comprised of a series of .beta.-strands sepd. by periplasmic or surface-exposed loop regions. In this study, a simple malarial epitope was used to demonstrate that OprF can be used as an expression vector to present foreign peptide sequences, namely, the 4-amino-acid (aa) repeating epitope (Asn-Ala-Asn-Pro = NANP) of the circumsporozoite protein of the human malarial parasite Plasmodium falciparum. Eight permissive sites, that allowed the expression and surface exposure of the malarial epitope, were identified throughout OprF. Using a monoclonal antibody (mAb) specific for the malarial epitope, we investigated the effects of positioning and length of the epitope on its antigenicity in the OprF expression vector system. It was demonstrated that the malarial epitope inserted at aa26 was significantly more reactive with the epitope-specific mAb (i.e., more antigenic) when assayed in the context of whole cells whereas those at aa213 and aa290 were more antigenic when assayed in the OM. The malarial epitope inserted at aa188 and aa196 was moderately antigenic, while this epitope inserted at aa215 and aa310 showed low antigenicity with the same mAb in both whole cell and OM assays. For two insertion sites, aa26 and aa213, we demonstrated that the insertion of multiple copies of the epitope enhanced reactivity with the malarial epitope-specific mAb. These data are discussed with respect to the local OprF sequences into which the epitope was inserted.

L6 ANSWER 13 OF 26 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1995:405424 CAPLUS
DOCUMENT NUMBER: 122:158350
TITLE: TH1 cells trigger tumor necrosis factor alpha-mediated hypersensitivity to Pseudomonas aeruginosa after adoptive transfer into SCID mice
AUTHOR(S): Frueh, Reinhard; Blum, Barbara; Mossmann, Horst; Domdey, Horst; von Specht, Bernd-Ulrich
CORPORATE SOURCE: Chirurgische Universitaetsklinik, Chirurgische forschung, Freiburg, 79106, Germany
SOURCE: Infect. Immun. (1995), 63(3), 1107-12
CODEN: INFIBR; ISSN: 0019-9567
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Recent expts. have shown that .gamma. interferon (IFN-.gamma.), either administered or induced in vivo, e.g., by certain bacteria, is a key mediator in inducing hypersensitivity to bacterial lipopolysaccharides. The source of endogenous IFN-.gamma. in this

context (natural killer vs. TH1 cells) has not been investigated yet. To investigate the role of **antigen**-specific, IFN-.gamma.-producing TH1 cells in murine Pseudomonas **aeruginosa** infection, a murine TH1 cell line was propagated in vitro by using recombinant P. **aeruginosa outer membrane protein** I. Adoptive transfer expts. were performed by i.v. injection of various amts. of TH1 cells into P. aeruginosa-challenged SCID mice. Adoptive transfer of 5 .times. 106 T cells into SCID mice followed by an i.p. challenge with 1.4 .times. 106 CFU of live P. aeruginosa resulted in the rapid death of the animals within 12 h post-challenge, whereas transfer of lower T-cell doses and saline as a control did not cause any detrimental effects. After challenge with 2.8 .times. 106 CFU of P. aeruginosa, similar results were obtained 18 h post-challenge; however, at the end of the 72-h observation period, no significant differences in survival rates were obtained between the groups treated with different amts. of T cells. The rapid death of mice treated with 5 .times. 106 T cells was reflected by 860-fold-elevated levels of tumor necrosis factor .alpha. (TNF-.alpha.) present in serum 2 h post-challenge, whereas no significant differences in TNF-.alpha. serum levels were detectable in mice treated with lower doses of T cells or with saline. Pretreatment of T-cell-reconstituted SCID mice with neutralizing anti-IFN-.gamma. monoclonal antibodies completely protected mice from bacterial challenge and reduced TNF-.alpha. levels in serum. The authors conclude that under the exptl. conditions described here, IFN-.gamma.- and interleukin-2-producing TH1 cells represent an important trigger mechanism inducing TNF-.alpha.-mediated hypersensitivity to bacterial endotoxin.

L6 ANSWER 14 OF 26 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1995:398135 CAPLUS
DOCUMENT NUMBER: 122:185213
TITLE: Serum IgG response to Burkholderia cepacia outer membrane antigens in cystic fibrosis: Assessment of cross-reactivity with Pseudomonas aeruginosa
AUTHOR(S): Lacy, David E.; Smith, Anthony W.; Stableforth, David E.; Smith, Grace; Weller, Peter H.; Brown, Michael R. W.
CORPORATE SOURCE: Royal Liverpool Children's NHS Trust, Liverpool, UK
SOURCE: FEMS Immunol. Med. Microbiol. (1995), 10(3-4), 253-62
CODEN: FIMIEV; ISSN: 0928-8244
DOCUMENT TYPE: Journal
LANGUAGE: English
AB B. cepacia (Pseudomonas cepacia) is now recognized as an important pathogen in cystic fibrosis patients, and several reports have suggested that sputum-culture-proven colonization occurs despite the presence of specific antibody. To establish the use of antibody studies as diagnostic and prognostic indicators of B. cepacia infection, the authors examd. the IgG response to B. cepacia outer membrane proteins and lipopolysaccharide in patients also colonized with P. aeruginosa. The B. cepacia strains were grown in a modified iron-depleted chem. defined medium and outer membrane components examd. by SDS-PAGE and immunoblotting. IgG were detected against B. cepacia outer membrane antigens, which were not diminished by extensive preadsorption with P. aeruginosa. The response to B.

cepacia O-antigen could be readily removed by adsorption of serum either with B. cepacia whole cells or purified LPS, whereas the authors were unable to adsorb anti-outer membrane protein antibodies using B. cepacia whole cells. The inability to adsorb anti-outer membrane protein antibodies using B. cepacia whole cells maybe due to non-exposed surface epitopes. Several B. cepacia sputum-culture neg. patients colonized with P. aeruginosa had antibodies directed against B. cepacia outer membrane protein. Apparently, there is a specific anti-B. cepacia LPS IgG response, which is not due to antibodies cross-reactive with P. aeruginosa. The studies indicate that much of the B. cepacia anti-outer membrane protein response is specific and not attributable to reactivity against co-migrating LPS.

L6 ANSWER 15 OF 26 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1995:279726 CAPLUS
DOCUMENT NUMBER: 122:103459
TITLE: Epitope mapping of the Pseudomonas aeruginosa major outer membrane porin protein OprF
AUTHOR(S): Rawling, Eileen G.; Martin, Nancy L.; Hancock, Robert E. W.
CORPORATE SOURCE: Dep. Microbiol., Univ. British Columbia, Vancouver, BC, V6T 1Z3, Can.
SOURCE: Infect. Immun. (1995), 63(1), 38-42
CODEN: INFIBR; ISSN: 0019-9567
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The Pseudomonas aeruginosa major outer membrane protein OprF has been proposed for use as a vaccine and as a target for immunotherapeutic and diagnostic monoclonal antibodies. The well-conserved epitopes for 10 surface-reactive, OprF-specific monoclonal antibodies were localized by both overlapping peptide anal. and immunodetection of OprF peptides generated by cyanogen bromide and the protease papain. Three of the monoclonal antibodies bound to specific overlapping octapeptides, which had been synthesized on 160 pins to cover the entire 326 amino acids of OprF. The highest reactivities was as follows: MA7-1 to the pin with attached peptide GTYETGNK (amino acids 55 to 62), MA7-2 to NLADFMKQ (amino acids 237 to 244), and MA5-8 to TAEGRAIN (amino acids 307 to 314). The other monoclonal antibodies showed no reactivity, indicating that they do not recognize linear epitopes. Two polyclonal sera were also tested and demonstrated weak reactivity with discrete regions of OprF, suggesting that the majority of antibodies produced might recognize conformational epitopes. Utilizing defined peptides generated with cyanogen bromide and papain, the conformational epitopes recognized by the seven monoclonal antibodies were localized to regions that were 42 to 90 amino acids long. These regions were located on two adjacent loops in the middle of an amended structural model of OprF.

L6 ANSWER 16 OF 26 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1995:241408 CAPLUS
DOCUMENT NUMBER: 122:232258
TITLE: Use of oligonucleotide probes to analyze the homology of the oprF gene among clinical and heterologous immunotype strains of Pseudomonas aeruginosa
AUTHOR(S): Kermani, Pouneh; Peloquin, Luc; Lagace,

Jacqueline
CORPORATE SOURCE: Univ. of Montreal, Montreal, PQ, H3C 3J7, Can.
SOURCE: Mol. Cell. Probes (1994), 8(5), 395-400
CODEN: MCPRE6; ISSN: 0890-8508
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The conservation of the **oprF** gene among 25 clin. Pseudomonas **aeruginosa** strains and a set of 17 serotype-specific representative strains of the international **antigen** typing scheme (IATS) was analyzed by dot-blotting using five specific oligonucleotide probes. The oligo 1, 2, 3, 4, 5 correspond to five different regions of the oprF gene and hybridized strongly with, resp., 88%, 88%, 76%, 94% and 71% of the IATS strains and 88%, 96%, 92%, 88% and 92% of the clin. strains. A parallel study performed with the whole oprF gene showed a lack of specificity of this probe; indeed, the probe hybridized not only with the 42 Pseudomonas aeruginosa strains but also with Escherichia coli and Salmonella minnesota. This study suggests that the gene sequence encoding protein F is not totally conserved among Pseudomonas aeruginosa strains.

L6 ANSWER 17 OF 26 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1994:184650 CAPLUS
DOCUMENT NUMBER: 120:184650
TITLE: Use of protein OprF for bacterial cell surface expression of oligopeptides and production of vaccines
INVENTOR(S): Hancock, Robert E. W.; Wong, Rebecca
PATENT ASSIGNEE(S): University of British Columbia, Can.
SOURCE: PCT Int. Appl., 43 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9324636	A1	19931209	WO 1993-CA227	19930527
W: CA				

PRIORITY APPLN. INFO.: US 1992-891495 19920529
AB A coding sequence for at least the amino terminal portion of an **outer membrane protein** (such as Pseudomonas **aeruginosa** gene **oprF** protein) in which .gtoreq.1 restriction enzyme sites have been inserted for ligation of a coding sequence for a peptide **antigen**, and/or to which such a peptide **antigen** coding sequence may be fused is described. This sequence may be expressed in Gram-neg. bacteria to produce vaccines or to identify peptides which might be useful in diagnosis of disease. A series of 11 plasmids, each contg. the oprF gene with linker sequences inserted into a different site, were prepd. A sequence encoding a malaria epitope was inserted into these sites, and the chimeric genes were expressed in Escherichia coli. The recombinant E. coli reacted with two malaria-specific monoclonal antibodies.

L6 ANSWER 18 OF 26 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1993:5272 CAPLUS

DOCUMENT NUMBER: 118:5272
TITLE: Synthetic peptides representing epitopes of outer membrane protein F of Pseudomonas aeruginosa that elicit antibodies reactive with whole cells of heterologous immunotype strains of P. aeruginosa
AUTHOR(S): Hughes, Eileen E.; Gilleland, Linda B.; Gilleland, H. E., Jr.
CORPORATE SOURCE: Sch. Med., Louisiana State Univ., Shreveport, LA, 71130, USA
SOURCE: Infect. Immun. (1992), 60(9), 3497-503
CODEN: INFIBR; ISSN: 0019-9567
DOCUMENT TYPE: Journal
LANGUAGE: English

AB By using the published amino acid sequence for mature **outer membrane protein** F of Pseudomonas **aeruginosa**, a computer-assisted anal. was performed to identify sites with potential as surface-exposed, **antigenic** regions located throughout the length of the protein mol. Synthetic peptides 13 to 15 amino acid residues in length were synthesized for 10 such regions. Mice were immunized with each of the 10 synthetic peptides conjugated to keyhole limpet hemocyanin. An ELISA of the antisera was performed by using each of the synthetic peptides as the ELISA antigen to verify that IgG antibodies capable of reacting with the peptide used as immunogen were elicited by each peptide. Each of the antipeptide antisera was screened for the presence of IgG antibodies that could bind to the surface of intact cells of strains representing the seven heterologous Fisher-Devlin immunotypes of P. aeruginosa by use of an ELISA with whole cells of the various strains as the ELISA antigen. Three peptides elicited antibodies capable of reacting with whole cells of all seven immunotype strains. Peptide 10, corresponding to amino acid residues 305 to 318, elicited whole-cell-reactive antibodies at high titers. Peptide 9, corresponding to amino acid residues 261 to 274, elicited whole-cell-reactive antibodies at more intermediate titers. Peptide 7, corresponding to amino acid residues 219 to 232, elicited such antibodies only at low titers. The carboxy-terminal portion of the mature protein appears to be the immunodominant portion. In particular, peptides 10 (NATAEGRAINRRVE) and 9 (TDAYNQKLSERRAN) appear to have potential for use as immunogens in a synthetic vaccine for immunoprophylaxis against infections caused by P. aeruginosa. Antisera from mice immunized with either peptide 9 or 10 mediated opsonophagocytic uptake by human polymorphonuclear leukocytes of wild-type cells of P. aeruginosa but exhibited no opsonic activity against a protein F-deficient mutant of P. aeruginosa.

L6 ANSWER 19 OF 26 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1992:171717 CAPLUS
DOCUMENT NUMBER: 116:171717
TITLE: The Gram-negative outer membrane: structure, biochemistry and vaccine potential
AUTHOR(S): Owen, Peter
CORPORATE SOURCE: Moyne Inst., Trinity Coll., Dublin, Israel
SOURCE: Biochem. Soc. Trans. (1992), 20(1), 1-6
CODEN: BCSTB5; ISSN: 0300-5127
DOCUMENT TYPE: Journal; General Review
LANGUAGE: English

AB A review with 52 refs. emphasizing 2 components of the bacterial outer membrane which have/may have vaccinogenic potential, i.e., the O-**antigen** of Pseudomonas **aeruginosa** and a novel **outer membrane protein (OMP)** of Escherichia coli termed **antigen** 43.

L6 ANSWER 20 OF 26 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1990:530236 CAPLUS
DOCUMENT NUMBER: 113:130236
TITLE: Protection against experimental Pseudomonas aeruginosa infection by recombinant P. aeruginosa lipoprotein I expressed in Escherichia coli
AUTHOR(S): Finke, Matthias; Duchene, Michael; Eckhardt, Ansley; Domdey, Horst; Von Specht, Bernd Ulrich
CORPORATE SOURCE: Chir. Universitaetsklin., Chir. Forsch., Freiburg/Br., 7800, Fed. Rep. Ger.
SOURCE: Infect. Immun. (1990), 58(7), 2241-4
CODEN: INFIBR; ISSN: 0019-9567
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Lipoprotein I (OprI) is one of the major proteins of the outer membrane of P. aeruginosa. **OprI** is a candidate for a vaccine against P. **aeruginosa**, because it cross-reacts **antigenically** in all serotype strains of the International **Antigenic** Typing Scheme. The authors recently cloned and expressed the gene coding for OprI in Escherichia coli. This heterologously expressed OprI was used successfully to immunize mice against P. aeruginosa. In addn., OprI from serogroup 12 of P. aeruginosa was highly purified by preparative isoelec. focusing and used for immunization of mice. Both vaccines protected the mice against a challenge with a four- to five-fold 50% LD of P. aeruginosa.

L6 ANSWER 21 OF 26 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1990:96842 CAPLUS
DOCUMENT NUMBER: 112:96842
TITLE: Monoclonal antibody to Pseudomonas **aeruginosa antigen OMP** -19
INVENTOR(S): Ouchi, Hiroshi; Otsuka, Hiroshi; Higuchi, Atsuko; Yokota, Shinichi; Noguchi, Hiroshi; Kozuki, Tsuneo; Kato, Masuhiro; Okuda, Takao
PATENT ASSIGNEE(S): Sumitomo Chemical Co., Ltd., Japan; Sumitomo Pharmaceuticals Co., Ltd.
SOURCE: Jpn. Kokai Tokkyo Koho, 12 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 01193300	A2	19890803	JP 1988-17958	19880127

AB The title monoclonal antibody, useful for clin. therapy and diagnosis, is produced by the conventional hybridoma method. The hybridoma is designated as hybridoma K-1H5. The monoclonal antibody

administered i.p. to P. aeruginosa-infected mice markedly controlled the infection.

L6 ANSWER 22 OF 26 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1989:187240 CAPLUS
DOCUMENT NUMBER: 110:187240
TITLE: Cloning and characterization of cDNAs coding for the heavy and light chains of a monoclonal antibody specific for Pseudomonas aeruginosa outer membrane protein I
AUTHOR(S): Marget, Matthias; Eckhardt, Ansley; Ehret, Werner; Von Specht, Bernd Ulrich; Duchene, Michael; Domdey, Horst
CORPORATE SOURCE: Lab. Mol. Biol., Ludwig-Maximilians-Univ. Muenchen, Martinsried, 8033, Fed. Rep. Ger.
SOURCE: Gene (1988), 74(2), 335-45
CODEN: GENED6; ISSN: 0378-1119
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A set of 7 monoclonal antibodies (MAb) directed against outer membrane proteins of P. aeruginosa has been examd. by Western blot anal., indirect immumofluorescence tests and subclass typing. The hybridoma cell line secreting MAb 6A4, which reacts with **outer membrane protein** I, belongs to the IgG2a subclass and crossreacts with the 17 P. **aeruginosa** serotypes as listed in the International **Antigenic** Typing System, was selected as source for the prepn. of poly(A)+ RNA which in turn was used as template for cDNA synthesis and cloning. Full length cDNA clones of the .gamma. heavy chain as well as the .kappa. light chain were obtained and characterized by nucleotide sequence anal. The complete cDNA sequences coding for the heavy and light chains will be the prerequisite for the construction and heterologous expression of a chimeric human-mouse monoclonal antibody which might be used in therapy of P. aeruginosa infections.

L6 ANSWER 23 OF 26 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1988:418131 CAPLUS
DOCUMENT NUMBER: 109:18131
TITLE: Cloning of the Pseudomonas aeruginosa outer membrane porin protein P gene: evidence for a linked region of DNA homology
AUTHOR(S): Siehnel, Richard J.; Worobec, Elizabeth A.; Hancock, Robert E. W.
CORPORATE SOURCE: Dep. Microbiol., Univ. British Columbia, Vancouver, BC, V6T 1W5, Can.
SOURCE: J. Bacteriol. (1988), 170(5), 2312-18
CODEN: JOBAAY; ISSN: 0021-9193
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The gene encoding the outer membrane phosphate-selective porin protein P from P. aeruginosa was cloned into Escherichia coli. The protein product was expressed and transported to the outer membrane of an E. coli phoE mutant and assembled into functional trimers. Expression of a product of the correct mol. wt. was confirmed by sodium dodecyl sulfate-polyacrylamide gel electrophoresis and Western blot (immunoblot) anal., using polyclonal antibodies to protein P monomer and trimer forms. Protein P trimers were partially purified from the E. coli clone and shown to form channels

with the same conductance as those formed by protein P from P. aeruginosa. The location and orientation of the protein P-encoding (**oprP**) gene on the cloned DNA was identified by three methods: (1) mapping the insertion point of transposon Tn501 in a previously isolated P. **aeruginosa** protein P-deficient mutant; (2) hybridization of restriction fragments from the cloned DNA to an oligonucleotide pool synthesized on the basis of the amino-terminal protein sequence of protein P; and (3) fusion of a PstI fragment of the cloned DNA to the amino terminus of the .beta.-galactosidase gene of pUC8, producing a fusion protein that contained protein P-**antigenic** epitopes. Structural anal. of the cloned DNA and P. aeruginosa chromosomal DNA revealed the presence of two adjacent PstI fragments which cross-hybridized, suggesting a possible gene duplication. The P-related (PR) region hybridized to the oligonucleotide pool described above. When the PstI fragment which contained the PR region was fused to the .beta.-galactosidase gene of pUC8, a fusion protein was produced which reacted with a protein P-specific antiserum. However, the restriction endonuclease patterns of the PR region and the oprP gene differed significantly beyond the amino-terminal one-third of the two genes.

L6 ANSWER 24 OF 26 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1986:624150 CAPLUS
DOCUMENT NUMBER: 105:224150
TITLE: Immunochemistry of Pseudomonas aeruginosa outer membrane proteins
AUTHOR(S): Mutharia, Lucy Muthoni
CORPORATE SOURCE: Univ. British Columbia, Vancouver, BC, Can.
SOURCE: (1985) No pp. Given Avail.: NLC
From: Diss. Abstr. Int. B 1986, 47(4), 1412-13
DOCUMENT TYPE: Dissertation
LANGUAGE: English
AB Unavailable

L6 ANSWER 25 OF 26 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1986:589042 CAPLUS
DOCUMENT NUMBER: 105:189042
TITLE: Polyclonal and monoclonal antibody therapy for experimental Pseudomonas aeruginosa pneumonia
AUTHOR(S): Pennington, James E.; Small, Gloria J.; Lostrom, Mark E.; Pier, Gerald B.
CORPORATE SOURCE: Dep. Med., Brigham and Women's Hosp., Boston, MA, 02115, USA
SOURCE: Infect. Immun. (1986), 54(1), 239-44
CODEN: INFIBR; ISSN: 0019-9567
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A human IgG prepn., enriched in antibodies to lipopolysaccharide (LPS) P. **aeruginosa antigens** (PA-IGIV) and murine monoclonal antibodies (MAb) to P. **aeruginosa** Fisher immunotype-1 (IT-1) LPS **antigen** and **outer membrane protein** F (porin), were evaluated for therapeutic efficacy in a guinea pig model of P. **aeruginosa** pneumonia. The concn. of antibodies to IT-1 LPS was 7.6 .mu.g/mL in PA-IGIV and 478 .mu.g/mL in the IT-1 MAb prepn. No antibody to IT-1 was detected in MAb to porin. Animals were infected by intratracheal instillation of IT-1 P. aeruginosa and then treated 2

h later with i.v. infusions of PA-IGIV, IT-1 MAb, or porin MAb. Control groups received i.v. albumin, and routinely died from pneumonia. Both PA-IGIV (500 mg/kg) and IT-1 MAb (.gtoreq.2.5 mg/kg) treatment resulted in increased survival, and also improved intrapulmonary killing of bacteria. Porin MAb failed to protect from fatal pneumonia. IT-1 MAb treatment produced more survivals than did PA-IGIV treatment but only at dosages of MAb resulting in serum antibody concns. greater than those achieved with PA-IGIV. PA-IGIV and IT-MAb demonstrated in vitro and in vivo (posttreatment guinea pig serum) opsonophagocytic activity for the IT-1 challenge strain. However, the polyclonal prepn. required complement, whereas the MAb did not. Thus, passive immunization with polyclonal hyperimmune P. aeruginosa globulin or with MAb to LPS antigens may be useful in the treatment of acute P. aeruginosa pneumonia. The relative efficacies of such prepns. may be limited, however, by their type-specific LPS antibody concns.

L6 ANSWER 26 OF 26 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1984:83900 CAPLUS
DOCUMENT NUMBER: 100:83900
TITLE: Antibody response of infected mice to outer membrane proteins of Pseudomonas aeruginosa
AUTHOR(S): Hedstrom, Richard C.; Pavlovskis, Olgerts R.; Galloway, Darrell R.
CORPORATE SOURCE: Nav. Med. Res. Inst., Bethesda, MD, 20814, USA
SOURCE: Infect. Immun. (1984), 43(1), 49-53
CODEN: INFIBR; ISSN: 0019-9567
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The antibody response to outer membrane proteins of P. aeruginosa was studied in mice exptl. infected with P. aeruginosa 220. The infection consisted of an abscess established by s.c. injection of bacteria. Sera from these mice were analyzed by indirect radioimmunopptn. and immunoblot methods for the presence of antibodies to proteins of the isolated outer membrane. Sera from mice 14 days postinfection contained antibodies directed against proteins that comigrated with the major outer membrane proteins F (porin), H2, and I (lipoprotein). A 16,000-dalton protein that did not appear to be a major outer membrane protein also elicited a significant antibody response in some instances. Thus, mice, in response to infection, elicit an immunol. response to outer membrane proteins of P. aeruginosa.

FILE 'MEDLINE, BIOSIS, EMBASE, WPIDS, JICST-EPLUS, JAPIO, PHIC, PHIN, TOXLIT, TOXCENTER' ENTERED AT 09:51:24 ON 01 MAR 2002)
L7 162 S L5
L8 67 DUP REM L7 (95 DUPLICATES REMOVED)

L8 ANSWER 1 OF 67 MEDLINE DUPLICATE 1
ACCESSION NUMBER: 2002000739 MEDLINE
DOCUMENT NUMBER: 21614930 PubMed ID: 11748189
TITLE: Bacterial lipoprotein-based vaccines induce tumor necrosis factor-dependent type 1 protective immunity against Leishmania major.
AUTHOR: Cote-Sierra Javier; Bredan Amin; Toldos Carmen M; Stijlemans Benoit; Brys Lea; Cornelis Pierre; Segovia Manuel; de Baetselier Patrick; Revets Hilde
CORPORATE SOURCE: Department of Immunology, Parasitology and

Ultrastructure, Flanders Interuniversity Institute for Biotechnology, Vrije Universiteit Brussel, Sint Genesius Rode, Belgium.
SOURCE: INFECTION AND IMMUNITY, (2002 Jan) 70 (1) 240-8. Journal code: 0246127. ISSN: 0019-9567.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200201
ENTRY DATE: Entered STN: 20020102
Last Updated on STN: 20020125
Entered Medline: 20020114

AB Immunity against Leishmania major requires rapid induction of a type 1 immune response in which tumor necrosis factor alpha (TNF-alpha) plays an essential role. Hence, vaccination strategies that simulate the protective immune response found in hosts that have recovered from natural infection provide a rational approach to combat leishmaniasis. One method for optimizing the qualitative and quantitative immune responses after vaccination is to use an adjuvant. In this study we demonstrate that the **OprI** lipoprotein (L-**OprI**) from Pseudomonas **aeruginosa** induces a long-term cellular (gamma interferon [IFN-gamma]) and humoral (immunoglobulin G2a) type 1 immune response against a truncated 32-kDa version (COOHgp63) of the 63-kDa major cell surface glycoprotein gp63. By contrast, immunization with COOHgp63 either fused to **OprI** nonlipoprotein or with no adjuvant did not result in the induction of type 1 immune responses. The adjuvanticity of L-**OprI** is strongly dependent on its capacity to induce TNF-alpha, since generation of type 1 immune responses is clearly delayed and impaired in TNF-alpha(-/-) mice. Vaccination with L-OprICOOHgp63 fusion protein protected BALB/c mice against L. major infection for at least 19 weeks. Vaccinated mice were largely free of lesions or clearly controlled lesion size on termination of the experiment. The control of disease progression in mice vaccinated with L-OprICOOHgp63 was associated with enhancement of **antigen**-specific IFN-gamma production. These data indicate that bacterial lipoproteins constitute appropriate adjuvants to include in vaccines against diseases in which type 1 immune responses are important for protection.

L8 ANSWER 2 OF 67 WPIDS COPYRIGHT 2002 DERWENT INFORMATION LTD
DUPLICATE 2

ACCESSION NUMBER: 2001-522552 [57] WPIDS
DOC. NO. CPI: C2001-156027
TITLE: Use of major **OprI** lipoprotein of Pseudomonas **aeruginosa** or its functional fragments as adjuvant to obtain a Th1 type immune response against heterologous **antigen**, for treating leishmaniasis, leprosy, allergic asthma.
DERWENT CLASS: B04 D16
INVENTOR(S): CORNELIS, P; DE BAETSELIER, P; REVETS, H
PATENT ASSIGNEE(S): (VLAA-N) VLAAMS INTERUNIVERSITAIR INST BIOTECHNOG
COUNTRY COUNT: 94
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG

WO 2001060404 A2 20010823 (200157)* EN 53
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC
MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE
DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG
KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ
PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN
YU ZA ZW
AU 2001048314 A 20010827 (200176)

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001060404 A2		WO 2001-EP1673	20010213
AU 2001048314 A		AU 2001-48314	20010213

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 2001048314 A	Based on		WO 200160404

PRIORITY APPLN. INFO: EP 2000-200589 20000218
AN 2001-522552 [57] WPIDS
AB WO 200160404 A UPAB: 20011005
NOVELTY - Use of major **OprI** lipoprotein of Pseudomonas **aeruginosa** or its functional fragments as an adjuvant to obtain a Th1 type immune response against a heterologous **antigen**.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) use of a host cell expressing an OprI-heterologous antigen fusion protein to obtain a Th1 type immune response against the heterologous antigen;

(2) manufacture a pharmaceutical composition comprising OprI or its functional fragments for obtaining a Th1 type immune response against a heterologous antigen;

(3) pharmaceutical composition comprising OprI and a heterologous antigen, optionally with an excipient;

(4) pharmaceutical composition comprising OprI fused to a heterologous antigen, optionally with an excipient; and

(5) pharmaceutical composition comprising a host cell expressing a OprI-heterologous antigen fusion protein, optionally with an excipient.

ACTIVITY - Antiparasitic; antileprotic; antiallergic; antiasthmatic; immunosuppressive.

MECHANISM OF ACTION - Th1 type immune response elicitor; vaccine.

To evaluate the potential adjuvant capacity of the lipoprotein I of Pseudomonas **aeruginosa** to heterologous proteins and the combination of its lipid moiety to the immunogenicity of the chimeric **OprI**-COOHgp63 lipoprotein, three different recombinant proteins were produced: the lipidated L-OprICOOHgp63, the non-lipidated NL-OprICOOHgp63 and the COOHgp63. All three recombinant proteins contained the COOH-terminal domain of the glycoprotein Gp63 of Leishmania major, which contained the

host-protective T cell epitopes. Mice (BALB/c, C57BL/6) were immunized subcutaneously once or three times with the recombinant proteins to respectively analyze the early cellular immune responses in the draining lymph nodes, and the secondary humoral immune responses, elicited against the heterologous COOHgp63 **antigen**. In vitro restimulation with the COOHgp63 of lymph node cells from BALB/c mice immunized once with either type of lipoprotein construct or COOHgp63, resulted in a clear induction of IL-10 secretion. Only lymph node cells from L-OprICOOHgp63-immunized BALB/c mice secreted interferon (IFN)- gamma . In the C57BL/6 strain, only lymph node cells from animals immunized with L-OprICOOHgp63 produced very high levels of IFN- gamma upon COOHgp63 restimulation. The induction of IFN- gamma production was sustained after three immunizations as evidenced by the production of high IFN- gamma levels in the spleen compartment, whereas the induction of interleukin (IL)-10 production was completely abrogated. When IL-4 was measured in the same culture supernatants, a secretion pattern similar to IL-10 was seen. However the levels of IL-4 production were either undetectable or much lower than the levels of IL-10 was seen. However the levels of IL-4 production were either undetectable or much lower than the levels of IL-10. Antibody isotype responses against the COOHgp63 protein were also analyzed in immunized animals for BALB/c and C57BL/6, three immunizations with the lipidated **OprI**-COOHgp63 induced a significant production of COOHgp63-specific IgG2a, IgG3, IgG2b and IgG1 antibodies. In contrast, the non-lipidated **OprI**-COOHgp63 and the COOHgp63 only induced significant levels of IgG1 anti-Gp63 antibodies and very low or undetectable levels of IgG2a, IgG3 and IgG2b in either mouse strain. There was no detectable IgA in the serum samples while the levels of IgM were marginal. Collectively, these immunization experiments demonstrated that the lipid tail of OprICOOHgp63 chimeric proteins elicit potent cellular (IFN- gamma) and humoral (IgG2a and IgG3 antibodies) Type-1 immune responses.

USE - As an adjuvant to obtain a Th1 type immune response against a heterologous antigen such as antigen gp63 of Leishmania major, for treating a disease such as leishmaniasis, TBC (undefined), leprosy, mycotin infection, allergic asthma or an autoimmune disease, in which the natural Th1 response is insufficient and/or in which the immune response is polarizes towards Th2 response (claimed).

Dwg.0/16

L8 ANSWER 3 OF 67 TOXLIT

ACCESSION NUMBER:	2001:28842 TOXLIT
DOCUMENT NUMBER:	CA-135-029894M
TITLE:	Novel Pseudomonas aeruginosa protein sequences and their uses as antigen/immunogen/vaccine, in detection/diagnosis, and screening anti-microbial targets.
AUTHOR:	Cripps AW; Kyd JM; Thomas LD
SOURCE:	(2001). PCT Int. Appl. PATENT NO. 0140473 06/07/2001 (Provalis UK Limited). CODEN: PIXXD2.
PUB. COUNTRY:	UNITED KINGDOM
DOCUMENT TYPE:	Patent
FILE SEGMENT:	CA
LANGUAGE:	English
OTHER SOURCE:	CA 135:29894

ENTRY MONTH: 200107

AB The present inventors have employed protein purifn. methods to isolate homogeneous prepns. of both **outer membrane proteins (OMPs)** and cytosolic proteins. Using a method of Zwittergent extn. with modifications to liq. column chromatog. and gel electrophoresis steps, several proteins have been purified, identified and assessed for their vaccine potential. The proteins were denoted by their mol. mass and their identity confirmed by amino-terminal sequencing. The inventors have isolated and identified proteins from a prepn. of P.**aeruginosa**. These proteins are designated Pa13, Pa20 (ACP), Pa 40 (amidase), Pa45 and Pa80. Pa20 was ascribed as ACP because it had homol. with a protein from Pseudomonas syringa and P. **aeruginosa**. Pa40 had homol. with a known P. **aeruginosa** aliph. amidase. The proteins designated Pa13, Pa45 and Pa80 were not found following this search. The invention further relates to the uses of **antigenic** proteins derived from Pseudomonas **aeruginosa** in the treatment, prophylaxis and diagnosis of P. **aeruginosa** infection.

L8 ANSWER 4 OF 67 MEDLINE DUPLICATE 3

ACCESSION NUMBER: 2001248169 MEDLINE
DOCUMENT NUMBER: 21189282 PubMed ID: 11292786
TITLE: Protection against Pseudomonas aeruginosa chronic lung infection in mice by genetic immunization against outer membrane protein F (OprF) of P. aeruginosa.
AUTHOR: Price B M; Galloway D R; Baker N R; Gilleland L B; Staczek J; Gilleland H E Jr
CORPORATE SOURCE: Department of Microbiology, The Ohio State University, Columbus, Ohio 43210,. USA.
CONTRACT NUMBER: RO1-AI44424 (NIAID)
SOURCE: INFECTION AND IMMUNITY, (2001 May) 69 (5) 3510-5. Journal code: GO7; 0246127. ISSN: 0019-9567.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200105
ENTRY DATE: Entered STN: 20010517
Last Updated on STN: 20010517
Entered Medline: 20010510

AB The Pseudomonas **aeruginosa** major constitutive outer membrane porin protein **OprF**, which has previously been shown to be a protective **antigen**, was targeted as a DNA vaccine candidate. The **oprF** gene was cloned into plasmid vector pVR1020, and the plasmid vaccines were delivered to mice by biolistic (gene gun) intradermal inoculation. Antibody titers in antisera from immunized mice were determined by enzyme-linked immunosorbent assay, and the elicited antibodies were shown to be specifically reactive to **OprF** by immunoblotting. The immunoglobulin G (IgG) immune response was predominantly of the IgG1 isotype. Sera from DNA vaccine-immunized mice had significantly greater opsonic activity in opsonophagocytic assays than did sera from control mice. Following the initial immunization and two consecutive boosts, each at 2-week intervals, protection was demonstrated in a mouse model of chronic pulmonary infection by P. **aeruginosa**. Eight days postchallenge, both lungs were

removed and examined. A significant reduction in the presence of severe macroscopic lesions, as well as in the number of bacteria present in the lungs, was seen. Based on these findings, genetic immunization with **oprF** has potential for development as a vaccine to protect humans against infection by P. **aeruginosa**
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L8 ANSWER 5 OF 67 MEDLINE DUPLICATE 4
ACCESSION NUMBER: 2000193540 MEDLINE
DOCUMENT NUMBER: 20193540 PubMed ID: 10727884
TITLE: Chimeric animal and plant viruses expressing epitopes of outer membrane protein F as a combined vaccine against Pseudomonas aeruginosa lung infection.
AUTHOR: Gilleland H E; Gilleland L B; Staczek J; Harty R N; Garcia-Sastre A; Palese P; Brennan F R; Hamilton W D; Bendahmane M; Beachy R N
CORPORATE SOURCE: Department of Microbiology and Immunology, Louisiana State University Medical Center, School of Medicine in Shreveport, Shreveport, LA 71130-3932, USA.. hgille@lsumc.edu
CONTRACT NUMBER: AI 27161 (NIAID)
RO1-AI44424 (NIAID)
SOURCE: FEMS IMMUNOLOGY AND MEDICAL MICROBIOLOGY, (2000 Apr) 27 (4) 291-7.
Journal code: BP1; 9315554. ISSN: 0928-8244.
PUB. COUNTRY: Netherlands
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200005
ENTRY DATE: Entered STN: 20000518
Last Updated on STN: 20000518
Entered Medline: 20000511

AB **Outer membrane protein** F of Pseudomonas **aeruginosa** has vaccine efficacy against infection by P. **aeruginosa** as demonstrated in a variety of animal models. Through the use of synthetic peptides, three surface-exposed epitopes have been identified. These are called peptides 9 (aa 261-274 in the mature F protein, TDAYNQKLSERRAN), 10 (aa 305-318, NATAEGRAINRRVE), and 18 (aa 282-295, NEYGVEGGRVNAVG). Both the peptide 9 and 10 epitopes are protective when administered as a vaccine. In order to develop a vaccine that is suitable for use in humans, including infants with cystic fibrosis, the use of viral vector systems to present the protective epitopes has been investigated. An 11-amino acid portion of epitope 10 (AEGRAINRRVE) was successfully inserted into the **antigenic** B site of the hemagglutinin on the surface of influenza virus. This chimeric influenza virus protects against challenge with P. **aeruginosa** in the mouse model of chronic pulmonary infection. Attempts to derive a chimeric influenza virus carrying epitope 9 have been unsuccessful. A chimeric plant virus, cowpea mosaic virus (CPMV), with epitopes 18 and 10 expressed in tandem on the large coat protein subunit (CPMV-PAE5) was found to elicit antibodies that reacted exclusively with the 10 epitope and not with epitope 18. Use of this chimeric virus as a vaccine afforded protection against challenge with P. **aeruginosa** in the mouse model of chronic pulmonary infection. Chimeric CPMVs with a single peptide containing epitopes 9 and 18 expressed on either of

the coat proteins are in the process of being evaluated. Epitope 9 was successfully expressed on the coat protein of tobacco mosaic virus (TMV), and this chimeric virus is protective when used as a vaccine in the mouse model of chronic pulmonary infection. However, initial attempts to express epitope 10 on the coat protein of TMV have been unsuccessful. Efforts are continuing to construct chimeric viruses that express both the 9 and 10 epitopes in the same virus vector system. Ideally, the use of a vaccine containing two epitopes of protein F is desirable in order to greatly reduce the likelihood of selecting a variant of P. **aeruginosa** that escapes protective antibodies in immunized humans via a mutation in a single epitope within protein F. When the chimeric influenza virus containing epitope 10 and the chimeric TMV containing epitope 9 were given together as a combined vaccine, the immunized mice produced antibodies directed toward both epitopes 9 and 10. The combined vaccine afforded protection against challenge with P. **aeruginosa** in the chronic pulmonary infection model at approximately the same level of efficacy as provided by the individual chimeric virus vaccines. These results prove in principle that a combined chimeric viral vaccine presenting both epitopes 9 and 10 of protein F has vaccine potential warranting continued development into a vaccine for use in humans.

L8 ANSWER 6 OF 67 MEDLINE DUPLICATE 5

ACCESSION NUMBER: 2000084956 MEDLINE
DOCUMENT NUMBER: 20084956 PubMed ID: 10617794
TITLE: Conformation-dependent antibody response to Pseudomonas aeruginosa outer membrane proteins induced by immunization in humans.
AUTHOR: Lee N; Ahn B; Jung S B; Kim Y G; Kim H; Park W J
CORPORATE SOURCE: R and D Center of Bioscience, Institute of Science and Technology, Cheiljedang Corp., Ichon, Kyonggi, South Korea.. ng_lee@cheiljedang.com
SOURCE: FEMS IMMUNOLOGY AND MEDICAL MICROBIOLOGY, (2000 Jan) 27 (1) 79-85.
Journal code: BP1; 9315554. ISSN: 0928-8244.
PUB. COUNTRY: Netherlands
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200002
ENTRY DATE: Entered STN: 20000309
Last Updated on STN: 20000309
Entered Medline: 20000224

AB **Outer membrane proteins** (**OMPs**) of pathogenic bacteria have been used as protective **antigens** in developing bacterial vaccines. In the present study, we compared the antibody responses to a Pseudomonas **aeruginosa OMP** vaccine elicited in humans and rabbits by immunization. Immunization with the vaccine induced high titers of serum IgG antibody both in rabbits and humans but reactivities of the induced antibodies with the **OMPs** were different. The rabbit immune sera recognized most of the **OMPs** in the vaccine both in immunoblot and immunoprecipitation analyses. In contrast, a great variation in band pattern and intensity was observed among the human immune sera in immunoblot analysis, but not in immunoprecipitation analysis. Denaturation of the **OMPs** did not affect the binding

activity of the rabbit immune sera as determined by ELISA, but substantially reduced those of the human immune sera and anti-**OMP** IgG purified from a pooled normal human plasma. These data suggest that antibody response to P. **aeruginosa** **OMPs** elicited by immunization in humans is mainly directed against discontinuous or conformation-dependent epitopes, which should be taken into account in developing vaccines, especially for **OMP**-derived synthetic peptides.

DUPLICATE 6

L8 ANSWER 7 OF 67 MEDLINE
ACCESSION NUMBER: 1999210724 MEDLINE
DOCUMENT NUMBER: 99210724 PubMed ID: 10194820
TITLE: A recombinant hybrid outer membrane protein for vaccination against Pseudomonas aeruginosa.
AUTHOR: Knapp B; Hundt E; Lenz U; Hungerer K D; Gabelsberger J; Domdey H; Mansouri E; Li Y; von Specht B U
CORPORATE SOURCE: Chiron Behring GmbH & Co, Marburg, Germany.. knapp2@mbg.chiron-behring.com
SOURCE: VACCINE, (1999 Mar 26) 17 (13-14) 1663-6. Journal code: X6O; 8406899. ISSN: 0264-410X.
PUB. COUNTRY: ENGLAND: United Kingdom
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199905
ENTRY DATE: Entered STN: 19990607
Last Updated on STN: 19990607
Entered Medline: 19990527

AB Among the numerous targets which can be used for the development of vaccines against Pseudomonas **aeruginosa** we focused on the **outer membrane proteins OprF** and **OprI**. The C-terminal part of **OprF** from aa 190 to aa 350 was investigated for its conservation and its localization of B-cell epitopes. A hybrid protein which combines the protective epitopes of **OprF** and **OprI** was expressed in E. coli and was proven to be highly protective against an intraperitoneal challenge with P. **aeruginosa** by active immunization of immunocompromised mice as well as by passive immunization of SCID mice with specific antisera. A purification procedure of the N-terminal His-tagged hybrid **antigen** was established using immobilized-metal-affinity chromatography. To evaluate its safety and immunogenicity the recombinant protein was purified for the immunization of human volunteers. The **OprF** **/OprI** hybrid protein is considered to be a candidate for a vaccine against P. **aeruginosa**.

DUPLICATE 7

L8 ANSWER 8 OF 67 MEDLINE
ACCESSION NUMBER: 1999036466 MEDLINE
DOCUMENT NUMBER: 99036466 PubMed ID: 9820580
TITLE: Identification of a 25-aminoacid sequence from the major African swine fever virus structural protein VP72 recognised by porcine cytotoxic T lymphocytes using a lipoprotein based expression system.
AUTHOR: Leitao A; Malur A; Cornelis P; Martins C L
CORPORATE SOURCE: Laboratorio de Doencas Infecciosas, CIISA, Faculdade de Medicina Veterinaria, Lisboa, Portugal.
SOURCE: JOURNAL OF VIROLOGICAL METHODS, (1998 Nov) 75 (1) 113-9.

Journal code: HQR; 8005839. ISSN: 0166-0934.
PUB. COUNTRY: Netherlands
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199901
ENTRY DATE: Entered STN: 19990209
Last Updated on STN: 19990209
Entered Medline: 19990128

AB Identification of African swine fever virus (ASFV) proteins recognised by cytotoxic T lymphocytes (CTL) from swine surviving ASFV/NH/P68 infection was assessed using expression vectors based on the Pseudomonas **aeruginosa** outer membrane lipoprotein I gene (**oprI**). Viral **antigens** expressed as fusion lipoproteins were shown to be taken efficiently by porcine blood-derived macrophages incubated with **outer membrane protein** preparations from transformed E. coli. To assess recognition by CTL the fusion lipoprotein-treated macrophages were used as targets in 51Cr release microcytotoxicity assays. Using this approach it was shown that the aminoacid sequence HKPHQSKPILTDENDTQRTCSHTNP from the major structural ASFV protein (VP72), encoded by a recombinant clone (pVUB72) is presented by macrophages, which are lysed under restriction of SLA class I **antigens**. Overall, the results demonstrate that the **oprI** based vectors are valuable tools to study ASFV-specific CTL activity.

L8 ANSWER 9 OF 67 MEDLINE DUPLICATE 8
ACCESSION NUMBER: 97237729 MEDLINE
DOCUMENT NUMBER: 97237729 PubMed ID: 9084184
TITLE: A phosphate-starvation-inducible outer-membrane protein of Pseudomonas fluorescens Ag1 as an immunological phosphate-starvation marker.
AUTHOR: Leopold K; Jacobsen S; Nybroe O
CORPORATE SOURCE: Department of Ecology and Molecular Biology, Royal Veterinary and Agricultural University, Frederiksberg C, Denmark.
SOURCE: MICROBIOLOGY, (1997 Mar) 143 (Pt 3) 1019-27.
Journal code: BXW; 9430468. ISSN: 1350-0872.
PUB. COUNTRY: ENGLAND: United Kingdom
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
OTHER SOURCE: PIR-P80694
ENTRY MONTH: 199705
ENTRY DATE: Entered STN: 19970609
Last Updated on STN: 19970609
Entered Medline: 19970529

AB A phosphate-starvation-inducible **outer-membrane protein** of Pseudomonas fluorescens Ag1, expressed at phosphate concentrations below 0.08-0.13 mM, was purified and characterized. The purification method involved separation of **outer-membrane proteins** by SDS-PAGE and extraction of the protein from nitrocellulose or PVDF membranes after electrotransfer of proteins to the membranes. The N-terminal amino acid sequence of the purified protein, called Psi1, did not show homology to any known proteins, and in contrast to the phosphate-specific porin **OprP** of P. **aeruginosa**

its mobility in SDS-PAGE was not affected by solubilization temperature. An antiserum against Psi1 recognized a protein of M, 55,000 in four other P. fluorescens strains among 24 tested strains representing Pseudomonas rRNA homology group I, showing **antigenic** heterogeneity within this group. A method for immunofluorescence microscopy involving cell permeabilization was adapted to visualize cell-specific expression of Psi1 in P. fluorescens exposed to limiting amounts of phosphate. This approach should be useful for further exploration of Psi1 as a marker to study the availability of phosphate to P. fluorescens in natural environments.

L8 ANSWER 10 OF 67 MEDLINE DUPLICATE 9

ACCESSION NUMBER: 1998020898 MEDLINE
DOCUMENT NUMBER: 98020898 PubMed ID: 9382755
TITLE: Pilin-based anti-Pseudomonas vaccines: latest developments and perspectives.
AUTHOR: Hahn H; Lane-Bell P M; Glasier L M; Nomellini J F; Bingle W H; Paranchych W; Smit J
CORPORATE SOURCE: Department of Biological Sciences, University of Alberta, Edmonton, Canada.
SOURCE: BEHRING INSTITUTE MITTEILUNGEN, (1997 Feb) (98) 315-25.
Journal code: 9KI; 0367532. ISSN: 0301-0457.
PUB. COUNTRY: GERMANY: Germany, Federal Republic of
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199711
ENTRY DATE: Entered STN: 19971224
Last Updated on STN: 19990129
Entered Medline: 19971110

AB Among the several adhesins produced by Pseudomonas **aeruginosa** (Pa), the type-4 pilus promotes the majority of the adherence capability of the bacterium to epithelial cells and it is a major virulence factor in an AB.Y/SnJ mouse infection model. Vaccines targeting the disulfide loop (DSL) adherence binding domain of the pilin protein should therefore provide an effective protection against initial colonization and infection with Pa. To selectively elicit adherence blocking antibodies, the pilin DSL domain was chosen as peptide **antigen** for the construction of recombinant protein and live vaccines. While synthetic peptide-carrier protein conjugates provided some strain-specific protection, chimeric proteins with N- or C-terminally fused pilin DSL peptides did not engender protective IgG titers mice. Integral fusions of the pilin DSL peptide with the minor coat protein of filamentous phage or surface exposed regions of an **outer membrane protein** resulted in a display of the peptide on the surface of the phage particles and bacterial cells respectively. However, in immunization studies neither of these live vaccines were effective immunogens. The paracrystalline S-layer of Caulobacter crescentus combines several advantages of an effective **antigen** surface display system. Recombinant S-layer proteins with singlecopy insertions of a pilin peptide did not engender significant IgG titers, whereas multiple tandem insertions of the same peptide increased the serum IgG response in mice a thousand times. Multiple insertions of DSL peptides from different frequent pilin prototypes may be an interesting alternative for a recombinant

cross-protective anti-Pseudomonas vaccine.

L8 ANSWER 11 OF 67 MEDLINE DUPLICATE 10
ACCESSION NUMBER: 1998020897 MEDLINE
DOCUMENT NUMBER: 98020897 PubMed ID: 9382754
TITLE: A hybrid **outer membrane protein antigen** for vaccination against Pseudomonas **aeruginosa**.
AUTHOR: Gabelsberger J; Knapp B; Bauersachs S; Enz U I; von Specht B U; Domdey H
CORPORATE SOURCE: Institut fur Biochemie, Ludwig-Maximilians-Universitat Munchen, Germany.
SOURCE: BEHRING INSTITUTE MITTEILUNGEN, (1997 Feb) (98) 302-14.
Journal code: 9KI; 0367532. ISSN: 0301-0457.
PUB. COUNTRY: GERMANY: Germany, Federal Republic of
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199711
ENTRY DATE: Entered STN: 19971224
Last Updated on STN: 19971224
Entered Medline: 19971110

AB Recently a hybrid protein containing parts of the **outer membrane proteins OprF** (aa 190-342) and **OprI** (aa 21-83) from Pseudomonas **aeruginosa** fused to the glutathione-S-transferase was shown to protect mice against a 975-fold 50% lethal dose of P. **aeruginosa**. To omit the use of the GST-protein, the hybrid protein **OprF-OprI** was expressed in E. coli using distinct modifications which have not to be eliminated after its expression. Using different signal peptides, the yield of the hybrid protein **OprF-OprI** in E. coli could be increased to 30% of the total cell protein, however, only a very small amount of the hybrid preprotein was processed and could be isolated from the periplasm of the host. A construct containing an N-terminal extension of 11 amino acids from the original **OprF** gene gave rise to a significantly higher expression in the cytoplasm. Purification was facilitated by the addition of a five histidine tag at the C-terminus. An even higher expression was obtained by a construct in which a six histidine tag was attached to the N-terminus of the hybrid protein. The N-terminal extended **OprF-OprI** as well as the N-terminal his-tagged **OprF-OprI** hybrid **antigens** were purified by immobilized-metal affinity chromatography under native and denaturing conditions and can now be tested for protectivity against P. **aeruginosa** in animal model systems.

L8 ANSWER 12 OF 67 MEDLINE DUPLICATE 11
ACCESSION NUMBER: 1998020896 MEDLINE
DOCUMENT NUMBER: 98020896 PubMed ID: 9382753
TITLE: Chimeric influenza viruses incorporating epitopes of outer membrane protein F as a vaccine against pulmonary infection with Pseudomonas aeruginosa.
AUTHOR: Gilleland H E Jr; Gilleland L B; Staczek J; Harty R N; Garcia-Sastre A; Engelhardt O G; Palese P
CORPORATE SOURCE: Department of Microbiology and Immunology, Louisiana State University Medical Center, Shreveport

71130-3932, USA.
SOURCE: BEHRING INSTITUTE MITTEILUNGEN, (1997 Feb) (98) 291-301.
Journal code: 9KI; 0367532. ISSN: 0301-0457.
PUB. COUNTRY: GERMANY: Germany, Federal Republic of
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199711
ENTRY DATE: Entered STN: 19971224
Last Updated on STN: 19971224
Entered Medline: 19971110

AB Peptide 10 (NATAEGRAINRRVE, residues 305-318 of mature protein F) is one of two linear B-cell epitopes within **outer membrane protein** F of Pseudomonas **aeruginosa** both of which have been shown to elicit whole cell-reactive antibodies and to afford protection in animal models against P. **aeruginosa** infection. Influenza A virus was chosen as a vector to present this epitope in a human-compatible vaccine. Various lengths of the peptide 10 epitope ranging from a 5-mer (GRAIN), 7-mer (AINRRVE), 8-mer (TAEGRAIN), 9-mer (GRAINRRVE), 11-mer (AEGRAINRRVE) to a 12-mer (TAEGRAINRRVE) were attempted to be presented into the **antigenic** B-site of the hemagglutinin (HA) of live recombinant influenza virus. Using PCR, DNA sequences encoding these various peptide 10 lengths were inserted into the HA gene of influenza A/WSN/33 virus. By using a reverse-genetics transfection system, RNA transcribed in vitro from these chimeric HA genes was reassorted into infectious virus. To date chimeric viruses have been rescued and purified containing the peptide 10 5-mer, 7-mer, 8-mer, and 11-mer. RT-PCR and sequencing have confirmed the presence of P. **aeruginosa** sequences in the HA RNA segment of each chimeric virus. Each of the four chimeric viruses produced to date was used to immunize mice to determine the ability of each chimeric virus to elicit antibodies reactive with whole cells of P. **aeruginosa**. The immunization protocol consisted of a series of three intranasal inoculations, followed by two intramuscular injections of the chimeric virus. The chimeric virus incorporating the 11-mer elicited IgG antibodies that reacted with various immunotype strains of P. **aeruginosa** in a whole cell ELISA at titers of 80 to 2,560, whereas the chimeric virus incorporating the 8-mer elicited whole cell-reactive IgG antibodies at titers of 320 to 2,560. These data suggest that these two chimeric viruses may have vaccine efficacy against P. **aeruginosa** infection. These studies may result in the development of a chimeric influenza virus-protein F vaccine which would prove to be suitable for use in children with cystic fibrosis for the prevention of pulmonary colonization of these children with P. **aeruginosa**.

L8 ANSWER 13 OF 67 MEDLINE DUPLICATE 12

ACCESSION NUMBER: 1998020895 MEDLINE
DOCUMENT NUMBER: 98020895 PubMed ID: 9382752
TITLE: Potential of protein OprF of Pseudomonas in bivalent vaccines.
AUTHOR: Hancock R E; Wong R
CORPORATE SOURCE: Department of Microbiology and Immunology, University of British Columbia, Vancouver.
SOURCE: BEHRING INSTITUTE MITTEILUNGEN, (1997 Feb) (98) 283-90. Ref: 32

Journal code: 9KI; 0367532. ISSN: 0301-0457.
PUB. COUNTRY: GERMANY: Germany, Federal Republic of
Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
(REVIEW, TUTORIAL)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199711
ENTRY DATE: Entered STN: 19971224
Last Updated on STN: 19971224
Entered Medline: 19971110

AB **Outer membrane protein OprF** is the major outer membrane of Pseudomonas **aeruginosa**, and has been expressed to a similar high level in Escherichia coli from the cloned gene. It contains conserved surface epitopes, and antibodies against these epitopes can protect mice from P. **aeruginosa** infections. To develop the **oprF** gene as a carrier for foreign epitopes, linker insertion mutagenesis has been performed to introduce 12 nucleotide inserts marked by a unique PstI site. Nine such sites can accept and express a foreign epitope within the surface loop regions of **OprF** on the surface of E. coli. The **antigenicity** at a given insertion site, and the influence of the length of a model repeating malarial epitope on **antigenicity**, have been shown to be site-specific and apparently dependent on the nature of the surrounding amino acids at the insertion site. Immunization of mice with **OprF** containing a highly **antigenic** inserted epitope led to an epitope-specific antibody response. These data suggest that **OprF** has potential for use as a carrier for foreign epitopes.

L8 ANSWER 14 OF 67 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 13

ACCESSION NUMBER: 1998:269368 BIOSIS
DOCUMENT NUMBER: PREV199800269368
TITLE: Immunochemical detection of dissolved proteins and their source bacteria in marine environments.
AUTHOR(S): Suzuki, Satoru (1); Kogure, Kazuhiro; Tanoue, Eiichiro
CORPORATE SOURCE: (1) Dep. Aquac., Kochi Univ., Nankoku, Kochi 783 Japan
SOURCE: Marine Ecology Progress Series, (Nov. 17, 1997) Vol. 158, No. 0, pp. 1-9.
ISSN: 0171-8630.
DOCUMENT TYPE: Article
LANGUAGE: English
AB In order to expand upon the discovery that specific proteins survive in seawater as dissolved protein and that the origin of these proteins is bacterial porin, we surveyed marine environments and cultured bacteria for the presence of homologues of 2 kinds of bacterial porins. Antisera against the N-terminus of the **OprP** porin of Pseudomonas **aeruginosa** and against the whole molecule of the Omp35La porin of Listonella (Vibrio) anguillarum were prepared and used as probes in Western blot analysis. In all samples collected in the subarctic and subtropical Pacific Ocean and the Antarctic Ocean, proteins reactive to the antisera were detected. The molecular masses of **OprP** and Omp35La are 48 and 33 to 37 kDa respectively; detected proteins in

seawater samples were generally also of similar molecular mass. However, dissolved proteins as well as **outer membrane proteins** from cultured bacteria with different molecular masses were detected using the antisera. This indicates that dissolved proteins and bacterial **outer membrane proteins** distinct from **OprP** and Omp35La contain similar **antigenic** structures to **OprP** and Omp35La. Fluorescent-antibody staining revealed that bacterial cells that were stainable with antisera were present in natural bacterial assemblages throughout the entire water column. Present observations strongly suggest that bacterial porins are a major source of dissolved proteins.

L8 ANSWER 15 OF 67 MEDLINE DUPLICATE 14
ACCESSION NUMBER: 97086508 MEDLINE
DOCUMENT NUMBER: 97086508 PubMed ID: 8932702
TITLE: Novel O-polysaccharide expression, as a lipid A-core-free form, in a lipopolysaccharide-core-defective mutant of Pseudomonas aeruginosa.
AUTHOR: Yokota S
CORPORATE SOURCE: Sumitomo Pharmaceuticals Research Center, Konohanaku, Osaka, Japan.
SOURCE: MICROBIOLOGY, (1996 Feb) 142 (Pt 2) 289-97. Journal code: BXW; 9430468. ISSN: 1350-0872.
PUB. COUNTRY: ENGLAND: United Kingdom
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199612
ENTRY DATE: Entered STN: 19970128
Last Updated on STN: 19970128
Entered Medline: 19961231

AB Pseudomonas **aeruginosa** PML14e is a mutant strain, isolated from strain PML14 (Homma serotype I), that is resistant to all types of R-pyocins. PML14e completely lacked glucose and rhamnose as components of the lipopolysaccharide (LPS) outer core region. Whereas the O-polysaccharide attachment site on the LPS core was considered to be absent, PML14e was agglutinable with anti-serotype-I antibodies. The O-polysaccharide of PML14e was recovered in the supernatant after ultracentrifugation of the aqueous layer from a hot phenol/water extraction. Chromatographic behaviour and chemical analysis indicated that the PML14e O-polysaccharide was not linked to the lipid A. 1H-NMR spectroscopy indicated that the structure of the PML14e O-polysaccharide was the same as that of the O-polysaccharide from PML14. The above evidence indicated that the O-polysaccharide is expressed on the cell surface of the mutant strain PML14e as the lipid A-free form. To examine the nature of the cell surface, the accessibility of monoclonal antibodies (mAbs) against cell surface **antigens** was tested by enzyme-linked immunosorbent assay. An anti-lipid A mAb and an anti-**outer-membrane protein** mAb, the epitopes for which are considered to be exposed on rough strains, bound to a greater extent to the PML14e cells than to two other LPS-core-defective rough mutants, PML14b and PML14d. Whereas these mutants appeared to have lesser defects in the LPS core, they expressed less O-polysaccharide than PML14e. The results indicated that the epitopes exposed on rough strains, such as lipid A and **outer-membrane proteins**, were mainly

hindered by covalently linked core oligosaccharide rather than by the O-polysaccharide chain.

L8 ANSWER 16 OF 67 MEDLINE DUPLICATE 15
ACCESSION NUMBER: 96291666 MEDLINE
DOCUMENT NUMBER: 96291666 PubMed ID: 8764483
TITLE: The effect of the length of a malarial epitope on its **antigenicity** and immunogenicity in an epitope presentation system using the Pseudomonas **aeruginosa outer membrane protein OprF** as the carrier.
AUTHOR: Wong R S; Hancock R E
CORPORATE SOURCE: Department of Microbiology and Immunology, University of British Columbia, Vancouver, Canada..
n-cianciotto@nwu.edu
SOURCE: FEMS MICROBIOLOGY LETTERS, (1996 Jul 1) 140 (2-3) 209-14.
Journal code: FML; 7705721. ISSN: 0378-1097.
PUB. COUNTRY: Netherlands
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199610
ENTRY DATE: Entered STN: 19961025
Last Updated on STN: 19980206
Entered Medline: 19961015

AB This study showed that the **antigenicity** of a malarial epitope increased with the length of the epitope when inserted at positions aa26 (amino acid position 26) and aa196, but not at aa213, of the Pseudomonas **aeruginosa** major **outer membrane protein OprF** (326 amino acids). Immunization studies showed that a 19-aa epitope was significantly more immunogenic than a 7-aa epitope when inserted at aa26 of **OprF**, while neither an 11- nor a 19-aa epitope fused to the C-terminus of glutathione S-transferase was immunogenic.

L8 ANSWER 17 OF 67 MEDLINE DUPLICATE 16
ACCESSION NUMBER: 1998299953 MEDLINE
DOCUMENT NUMBER: 98299953 PubMed ID: 9636324
TITLE: Development of new cloning vectors for the production of immunogenic outer membrane fusion proteins in Escherichia coli.
AUTHOR: Cornelis P; Sierra J C; Lim A Jr; Malur A; Tungpradabkul S; Tazka H; Leitao A; Martins C V; di Perna C; Brys L; De Baetseller P; Hamers R
CORPORATE SOURCE: Laboratorium Algemene Biologie, Vrije Unviersiteit Brussel Vlaams Instituut Biotechnologie, Belgium..
pcornel@vub.ac.be
SOURCE: BIO/TECHNOLOGY, (1996 Feb) 14 (2) 203-8.
Journal code: AL1; 8309273. ISSN: 0733-222X.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: B
ENTRY MONTH: 199807
ENTRY DATE: Entered STN: 19980731
Last Updated on STN: 19980731
Entered Medline: 19980717

AB The Pseudomonas **aeruginosa** lipoprotein gene (**oprI**) was modified by cloning an in-frame polylinker in both orientations at the end of **oprI**. The resulting plasmids pVUB1 and pVUB2 allow high lipoprotein production in E. coli after IPTG induction. The modified lipoproteins are present in the outer membrane and surface-exposed. Outer membrane-bound fusion proteins of different sizes were produced and used to generate antibodies without use of adjuvant. An 87 bp DNA fragment from the vp72 capsid protein gene of African Swine Fever virus (ASFV) and the entire Leishmania major glycoprotein gp63 gene were expressed in this system. Finally, a fusion lipoprotein containing a 16 amino acid epitope from the pre-S2b region of Hepatitis B virus (HBV) was presented by an **antigen**-presenting cell line to a T-cell hybridoma while the corresponding cross-linked S2b peptide was not. The results suggest that **OprI**-based fusion proteins can be used to generate both humoral and cellular immune responses.

L8 ANSWER 18 OF 67 TOXLIT
ACCESSION NUMBER: 1995:68147 TOXLIT
DOCUMENT NUMBER: CA-122-283857H
TITLE: Expression vectors using components of a lipoprotein gene to present a foreign protein on the surface of a microbial host.
AUTHOR: Hamers R; Cornelis P
SOURCE: (1995). PCT Int. Appl. PATENT NO. 95 04079 02/09/95.
PUB. COUNTRY: Belgium
DOCUMENT TYPE: Patent
FILE SEGMENT: CA
LANGUAGE: French
OTHER SOURCE: CA 122:283857
ENTRY MONTH: 199509
AB Cloning and expression vectors for the presentation of a foreign protein on the surface of a bacterial host are described. The vector uses the regulatory elements of the gene for a lipoprotein to direct expression of the foreign gene and elements from the coding region of the lipoprotein gene to direct integration of the protein into the cell membrane with presentation of the foreign protein on the cell surface. The lipoprotein is not derived from Escherichia coli with the preferred lipoprotein coming from Pseudomonas **aeruginosa**. The construction of such a vector using the **oprI** gene of P. **aeruginosa** is demonstrated. A family of vectors differing by their polylinkers was developed and their utility in the presentation of a no. of proteins on the surface of E. coli is demonstrated. Strains presenting **antigens** were used to raise antibodies.

L8 ANSWER 19 OF 67 MEDLINE DUPLICATE 17
ACCESSION NUMBER: 95286287 MEDLINE
DOCUMENT NUMBER: 95286287 PubMed ID: 7539410
TITLE: Synthetic peptides representing two protective, linear B-cell epitopes of outer membrane protein F of Pseudomonas aeruginosa elicit whole-cell-reactive antibodies that are functionally pseudomonad specific.
AUTHOR: Gilleland L B; Gilleland H E Jr
CORPORATE SOURCE: Department of Microbiology and Immunology, Louisiana State University Medical Center, School of Medicine in Shreveport 71130-3932, USA.

SOURCE: INFECTION AND IMMUNITY, (1995 Jun) 63 (6) 2347-51.
Journal code: GO7; 0246127. ISSN: 0019-9567.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199507
ENTRY DATE: Entered STN: 19950713
Last Updated on STN: 19960129
Entered Medline: 19950705

AB Peptide 9 (TDAYNQKLSERRAN) and peptide 10 (NATAEGRAINRRVE) represent surface-exposed epitopes of **outer membrane protein** F of Pseudomonas **aeruginosa**. Rats immunized with four intramuscular inoculations on days 0, 14, 28, and 42 with either peptide 9 or peptide 10 conjugated to keyhole limpet hemocyanin were afforded protection against pulmonary lesions when examined 7 days subsequent to challenge (day 56) via intratracheal inoculation of P. **aeruginosa**-containing agar beads. Peptide 9 shares considerable homology with other OmpA-related **outer membrane proteins** in various bacteria, whereas peptide 10 displays little homology with these other proteins. Antisera directed to peptide 9 reacted weakly with cell envelope proteins from the various other OmpA-associated bacteria upon immunoblot analysis. However, antisera directed to peptide 10 reacted only with Neisseria gonorrhoeae cell envelope proteins upon immunoblot analysis. Antisera to both peptides 9 and 10 reacted at minimal titers with whole cells of the various other bacteria in a whole-cell enzyme-linked immunosorbent assay (ELISA) but antisera to each of the peptides reacted at high titers when various strains of P. **aeruginosa** were used as the ELISA **antigen**. Antibodies to peptides 9 and 10 were protective, reactive to all strain of P. **aeruginosa** tested except for a protein F-deficient mutant, and functionally specific against pseudomonads.

DUPLICATE 18

L8 ANSWER 20 OF 67 MEDLINE

ACCESSION NUMBER: 95285072 MEDLINE
DOCUMENT NUMBER: 95285072 PubMed ID: 7767563
TITLE: Virulence factors in the colonization and persistence of bacteria in the airways.
AUTHOR: van Alphen L; Jansen H M; Dankert J
CORPORATE SOURCE: Department of Medical Microbiology, University of Amsterdam, The Netherlands.
SOURCE: AMERICAN JOURNAL OF RESPIRATORY AND CRITICAL CARE MEDICINE, (1995 Jun) 151 (6) 2094-9; discussion 2099-100. Ref: 52
Journal code: BZS; 9421642. ISSN: 1073-449X.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
(REVIEW, TUTORIAL)
LANGUAGE: English
FILE SEGMENT: Abridged Index Medicus Journals; Priority Journals
ENTRY MONTH: 199506
ENTRY DATE: Entered STN: 19950713
Last Updated on STN: 19950713
Entered Medline: 19950630

AB Haemophilus influenzae, Streptococcus pneumoniae, Moraxella

catarrhalis, Staphylococcus aureus, Klebsiella pneumoniae, and Pseudomonas **aeruginosa** are commonly isolated from sputum specimens of patients with lower respiratory tract infections. Haemophilus influenzae, S. pneumoniae, and M. catarrhalis have several pathogenic properties in common. These bacteria are able to interact with mucus, to exert ciliotoxic activity, to adhere to bronchial epithelial cells, and to invade airway epithelium. Haemophilus influenzae and S. pneumoniae strains persist for many months in the respiratory tract of patients with chronic obstructive pulmonary disease (COPD), despite the specific antibodies present in serum and sputum against the persistent strain. Especially during exacerbations persistent strains with changes in their **antigenic** composition are isolated. Among H. influenzae strains, the **antigenic** characteristics of the **outer membrane protein** composition vary.
Variation in S. pneumoniae occurs in capsular polysaccharides, the major immunogens of this bacterium. Such variations affect the efficacy of the antibody-mediated defense mechanisms against the bacteria. Between exacerbations, particularly H. influenzae, S. pneumoniae strains are recovered from the sputum of patients with COPD. Recovery may continue for periods up to 2 yr, although not continuously. Besides ineffective antibody-mediated defense mechanisms, it is likely that hiding of the bacteria in tissue contributes to the persistence of these bacteria in patients with COPD.

L8 ANSWER 21 OF 67 MEDLINE DUPLICATE 19
ACCESSION NUMBER: 95172707 MEDLINE
DOCUMENT NUMBER: 95172707 PubMed ID: 7868234
TITLE: TH1 cells trigger tumor necrosis factor alpha-mediated hypersensitivity to Pseudomonas aeruginosa after adoptive transfer into SCID mice.
AUTHOR: Fruh R; Blum B; Mossmann H; Domdey H; von Specht B U
CORPORATE SOURCE: Chirurgische Universitatsklinik, Chirurgische Forschung, Freiburg, Germany.
SOURCE: INFECTION AND IMMUNITY, (1995 Mar) 63 (3) 1107-12. Journal code: GO7; 0246127. ISSN: 0019-9567.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199503
ENTRY DATE: Entered STN: 19950407
Last Updated on STN: 19970203
Entered Medline: 19950330

AB Recent experiments have shown that gamma interferon (IFN-gamma), either administered or induced in vivo, e.g., by certain bacteria, is a key mediator in inducing hypersensitivity to bacterial lipopolysaccharides. The source of endogenous IFN-gamma in this context (natural killer versus TH1 cells) has not been investigated yet. In order to investigate the role of **antigen**-specific, IFN-gamma-producing TH1 cells in murine Pseudomonas **aeruginosa** infection, a murine TH1 cell line was propagated in vitro by using recombinant P. **aeruginosa outer membrane protein** I. Adoptive transfer experiments were performed by intravenous injection of various amounts of TH1 cells into P. **aeruginosa**-challenged SCID mice. Adoptive transfer of 5 x 10(6) T cells into SCID mice followed by an

intraperitoneal challenge with 1.4 x 10(6) CFU of live P. **aeruginosa** resulted in the rapid death of the animals within 12 h postchallenge, whereas transfer of lower T-cell doses and saline as a control did not cause any detrimental effects. After challenge with 2.8 x 10(6) CFU of P. **aeruginosa**, similar results were obtained 18 h postchallenge; however, at the end of the 72-h observation period, no significant differences in survival rates were obtained between the groups treated with different amounts of T cells. The rapid death of mice treated with 5 x 10(6) T cells was reflected by 860-fold-elevated levels of tumor necrosis factor alpha (TNF-alpha) present in serum 2 h postchallenge, whereas no significant differences in TNF-alpha serum levels were detectable in mice treated with lower doses of T cells or with saline. Pretreatment of T-cell-reconstituted SCID mice with neutralizing anti-IFN-gamma monoclonal antibodies completely protected mice from bacterial challenge and reduced TNF-alpha levels in serum. We conclude that under the experimental conditions described here, IFN-gamma- and interleukin-2-producing TH1 cells represent an important trigger mechanism inducing TNF-alpha-mediated hypersensitivity to bacterial endotoxin.

L8 ANSWER 22 OF 67 MEDLINE DUPLICATE 20
ACCESSION NUMBER: 96157381 MEDLINE
DOCUMENT NUMBER: 96157381 PubMed ID: 8574841
TITLE: Identification of **outer membrane proteins** as target **antigens** of Pseudomonas **aeruginosa** Homma serotype M.
AUTHOR: Yokota S
CORPORATE SOURCE: Sumitomo Pharmaceuticals Research Center, Osaka, Japan.
SOURCE: CLINICAL AND DIAGNOSTIC LABORATORY IMMUNOLOGY, (1995 Nov) 2 (6) 747-52.
Journal code: CB7; 9421292. ISSN: 1071-412X.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199603
ENTRY DATE: Entered STN: 19960321
Last Updated on STN: 19960321
Entered Medline: 19960312

AB Pseudomonas **aeruginosa** is routinely serotyped in Japan by using the Homma scheme. The serotypes (O serotypes) are based on the chemical structure of the O-polysaccharide portion of the lipopolysaccharide (LPS). However, the nature of the Homma serotype M **antigen** has remained obscure because strains classified as serotype M usually have the rough phenotype. I characterized the target **antigen** of serotype M. The results of Western blotting (immunoblotting) showed that commercially available typing monoclonal antibody (MAb) against serotype M specifically bound to **outer membrane protein** (**Opr**) G and that typing rabbit antiserum specific for serotype M mainly contained antibodies against **Oprs** F and H2. These **Oprs** were distributed among all P. **aeruginosa** strains tested, including the serotype standard, serotype M and nontypeable strains, and a series of LPS-core-defective mutants derived from strain PAC1. However, the rough mutants derived from strain PAC1 agglutinated with the anti-serotype M antibodies,

whereas the smooth strains did not. LPS preparations from serotype M strains possessed few or no polysaccharide chains. These strains had higher levels of binding activity with anti-serotype M MAb, as well as with anti-lipid A MAb, which specifically bound to the cell surface of the rough-natured gram-negative bacterial strains with high activity. The anti-serotype M antiserum also contained rough-LPS-specific antibodies, but the epitope was distributed among only a few strains. The results suggested that the **Oprs** acted as the serotype M **antigen** and that LPS did not. In conclusion, the rough strains agglutinated with anti-**Opr** antibodies and were distinguished as serotype M from the smooth strains of other serotypes, because the antibodies were accessible to the cell surface lacking O polysaccharides. I supposed that Homma serotype M is an index of the rough nature of P. **aeruginosa** strains rather than one of the O serotypes.

L8 ANSWER 23 OF 67 MEDLINE DUPLICATE 21
ACCESSION NUMBER: 96014427 MEDLINE
DOCUMENT NUMBER: 96014427 PubMed ID: 7580798
TITLE: Use of synthetic peptides to identify surface-exposed, linear B-cell epitopes within outer membrane protein F of Pseudomonas aeruginosa.
AUTHOR: Gilleland H E Jr; Hughes E E; Gilleland L B; Matthews-Greer J M; Staczek J
CORPORATE SOURCE: Department of Microbiology and Immunology, Louisiana State University Medical Center, School of Medicine, Shreveport 71130-3932, USA.
SOURCE: CURRENT MICROBIOLOGY, (1995 Nov) 31 (5) 279-86. Journal code: BMW; 7808448. ISSN: 0343-8651.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: B
ENTRY MONTH: 199512
ENTRY DATE: Entered STN: 19960124
Last Updated on STN: 19960124
Entered Medline: 19951207

AB In a previous study (Hughes EE, Gilleland LB, Gilleland HE Jr. [1992] Infect Immun 60:3497-3503), ten synthetic peptides were used to test for surface-exposed **antigenic** regions located throughout the length of **outer membrane protein** F of Pseudomonas **aeruginosa**. An additional nine peptides of 11-21 amino acid residues in length were synthesized. Antisera collected from mice immunized with each of the 19 synthetic peptides conjugated to keyhole limpet hemocyanin were used to determine which of the peptides had elicited antibodies capable of reacting with the surface of whole cells of the various heterologous Fisher-Devlin immunotypes of P. **aeruginosa**. Cell surface reactivity was measured by an enzyme-linked immunosorbent assay (ELISA) with whole cells of the various immunotypes as the ELISA **antigens** and by opsonophagocytic uptake assays with the various peptide-directed antisera, immunotype 2 P. **aeruginosa** cells, and polymorphonuclear leukocytes of human and murine origin. Three peptides located in the carboxy-terminal portion of protein F elicited antibodies with the greatest cell-surface reactivity. Peptide 9 (TDAYNQKLSERRAN), peptide 10 (NATAEGRAINRRVE), and peptide 18 (NEYGVEGGRVNAVG) appear to have sufficient potential for further development as vaccine

candidates for immunoprophylaxis against infections caused by P. **aeruginosa**. A topological model for the arrangement of protein F within the outer membrane of P. **aeruginosa** is presented.

L8 ANSWER 24 OF 67 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1995:290836 BIOSIS
DOCUMENT NUMBER: PREV199598305136
TITLE: Pseudomonas **aeruginosa Outer Membrane Protein OprF** as an Expression Vector for Foreign Epitopes: The Effects of Length and Positioning on the **Antigenicity** and Immunogenicity of the Epitope.
AUTHOR(S): Wong, Rebecca S. Y.; Hancock, Bob
CORPORATE SOURCE: University British Columbia, Vancouver, BC Canada
SOURCE: Abstracts of the General Meeting of the American Society for Microbiology, (1995) Vol. 95, No. 0, pp. 266.
Meeting Info.: 95th General Meeting of the American Society for Microbiology Washington, D.C., USA May 21-25, 1995
ISSN: 1060-2011.
DOCUMENT TYPE: Conference
LANGUAGE: English

L8 ANSWER 25 OF 67 MEDLINE DUPLICATE 22
ACCESSION NUMBER: 95291266 MEDLINE
DOCUMENT NUMBER: 95291266 PubMed ID: 7539670
TITLE: Serum IgG response to Burkholderia cepacia outer membrane antigens in cystic fibrosis: assessment of cross-reactivity with Pseudomonas aeruginosa.
AUTHOR: Lacy D E; Smith A W; Stableforth D E; Smith G; Weller P H; Brown M R
CORPORATE SOURCE: Royal Liverpool Children's NHS Trust, UK.
SOURCE: FEMS IMMUNOLOGY AND MEDICAL MICROBIOLOGY, (1995 Feb) 10 (3-4) 253-61.
Journal code: BP1; 9315554. ISSN: 0928-8244.
PUB. COUNTRY: Netherlands
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199507
ENTRY DATE: Entered STN: 19950720
Last Updated on STN: 19960129
Entered Medline: 19950713

AB Burkholderia cepacia (Pseudomonas cepacia) is now recognised as an important pathogen in cystic fibrosis patients, and several reports have suggested that sputum-culture-proven colonisation occurs despite the presence of specific antibody. In an attempt to establish the use of antibody studies as diagnostic and prognostic indicators of B. cepacia infection, we have examined the IgG response to B. cepacia **outer membrane proteins** and lipopolysaccharide in patients also colonised with P. **aeruginosa**. The B. cepacia strains were grown in a modified iron-depleted chemically defined medium and outer membrane components examined by SDS-PAGE and immunoblotting. IgG antibodies were detected against B. cepacia outer membrane **antigens**,

which were not diminished by extensive preadsorption with P. **aeruginosa**. The response to B. cepacia O-**antigen** could be readily removed by adsorption of serum either with B. cepacia whole cells or purified LPS, whereas we were unable to adsorb anti-**outer membrane protein** antibodies using B. cepacia whole cells. The inability to adsorb anti-**outer membrane protein** antibodies using B. cepacia whole cells maybe due to non-exposed surface epitopes. Several B. cepacia sputum-culture negative patients colonised with P. **aeruginosa** had antibodies directed against B. cepacia **outer membrane protein**. this study suggests that there is a specific anti-B. cepacia LPS IgG response, which is not due to antibodies cross-reactive with P. **aeruginosa**. Our studies indicate that much of the B. cepacia anti-**outer membrane protein** response is specific and not attributable to reactivity against co-migrating LPS.

L8 ANSWER 26 OF 67 MEDLINE DUPLICATE 23
ACCESSION NUMBER: 95309725 MEDLINE
DOCUMENT NUMBER: 95309725 PubMed ID: 7540583
TITLE: Pseudomonas **aeruginosa outer membrane protein OprF** as an expression vector for foreign epitopes: the effects of positioning and length on the **antigenicity** of the epitope.
AUTHOR: Wong R S; Wirtz R A; Hancock R E
CORPORATE SOURCE: Department of Microbiology and Immunology, University of British Columbia, Vancouver, Canada.
SOURCE: GENE, (1995 May 26) 158 (1) 55-60.
Journal code: FOP; 7706761. ISSN: 0378-1119.
PUB. COUNTRY: Netherlands
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199507
ENTRY DATE: Entered STN: 19950807
Last Updated on STN: 19960129
Entered Medline: 19950724

AB **OprF**, the major outer membrane (OM) protein of Pseudomonas **aeruginosa**, has been proposed to be comprised of a series of beta-strands separated by periplasmic or surface-exposed loop regions. In this study, a simple malarial epitope was used to demonstrate that **OprF** can be used as an expression vector to present foreign peptide sequences, namely, the 4-amino-acid (aa) repeating epitope (Asn-Ala-Asn-Pro = NANP) of the circumsporozoite protein of the human malarial parasite Plasmodium falciparum. Eight permissive sites, that allowed the expression and surface exposure of the malarial epitope, were identified throughout **OprF**. Using a monoclonal antibody (mAb) specific for the malarial epitope, we investigated the effects of positioning and length of the epitope on its **antigenicity** in the **OprF** expression vector system. It was demonstrated that the malarial epitope inserted at aa26 was significantly more reactive with the epitope-specific mAb (i.e., more **antigenic**) when assayed in the context of whole cells whereas those at aa213 and aa290 were more **antigenic** when assayed in the OM. The malarial epitope inserted at aa188 and aa196 was moderately **antigenic**

, while this epitope inserted at aa215 and aa310 showed low **antigenicity** with the same mAb in both whole cell and OM assays. For two insertion sites, aa26 and aa213, we demonstrated that the insertion of multiple copies of the epitope enhanced reactivity with the malarial epitope-specific mAb. These data are discussed with respect to the local **OprF** sequences into which the epitope was inserted.

L8 ANSWER 27 OF 67 MEDLINE DUPLICATE 24
ACCESSION NUMBER: 95183079 MEDLINE
DOCUMENT NUMBER: 95183079 PubMed ID: 7877635
TITLE: Use of oligonucleotide probes to analyse the homology of the oprF gene among clinical and heterologous immunotype strains of Pseudomonas aeruginosa.
AUTHOR: Kermani P; Peloquin L; Lagace J
CORPORATE SOURCE: University of Montreal, Department of Microbiology and Immunology, Quebec, Canada.
SOURCE: MOLECULAR AND CELLULAR PROBES, (1994 Oct) 8 (5) 395-400.
Journal code: NG9; 8709751. ISSN: 0890-8508.
PUB. COUNTRY: ENGLAND: United Kingdom
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199503
ENTRY DATE: Entered STN: 19950419
Last Updated on STN: 19950419
Entered Medline: 19950331

AB The conservation of **oprF** gene among 25 clinical Pseudomonas **aeruginosa** strains and a set of 17 serotype-specific representative strains of the international **antigen** typing scheme (IATS) was analysed by dot-blotting using five specific oligonucleotide probes. The oligo 1, 2, 3, 4, 5 correspond to five different regions of the **oprF** gene and hybridized strongly with respectively 88%, 88%, 76%, 94% and 71% of the IATS strains and 88%, 96%, 92%, 88% and 92% of the clinical strains. A parallel study performed with the whole **oprF** gene showed a lack of specificity of this probe: indeed, the probe hybridized not only with the 42 Pseudomonas **aeruginosa** strains but also with Escherichia coli and Salmonella minnesota. This study suggests that the gene sequence encoding the protein F is not totally conserved among Pseudomonas **aeruginosa** strains.

L8 ANSWER 28 OF 67 WPIDS COPYRIGHT 2002 DERWENT INFORMATION LTD
ACCESSION NUMBER: 1993-405827 [50] WPIDS
DOC. NO. CPI: C1993-180406
TITLE: Use of OprF protein - in expression of heterologous oligopeptide(s) on gram-negative bacterial cell surface to produce live vaccines and to map antigenic epitope(s).
DERWENT CLASS: B04 D16
INVENTOR(S): HANCOCK, R E W; WONG, R
PATENT ASSIGNEE(S): (UYBR-N) UNIV BRITISH COLUMBIA
COUNTRY COUNT: 1
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG

WO 9324636 A1 19931209 (199350)* EN 45
W: CA

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 9324636	A1	WO 1993-CA227	19930527

PRIORITY APPLN. INFO: US 1992-891495 19920529
AN 1993-405827 [50] WPIDS
AB WO 9324636 A UPAB: 19940203
Vaccine comprises bacterial cells expressing one or more heterologous antigens on their surface.

Also claimed are (1) a DNA sequence encoding an amino acid sequence, with one of the following sequences (a) P-N-R1-X-R2C1, (b) P-N1-R1, (c) P-N1-R1-C1, where in (a) P is DNA providing efficient transcription initiation in a host bacterium, N encodes the N-terminal portion of an outer membrane protein (OMP) and contains a bacterial leader sequence for processing and translocation, R1 and R2 are restriction sites for insertion of up to 207 nucleotides encoding an oligopeptide of interest (number of sites is 1-4), X is the central portion of the OMP, and C represents the C-terminal portion of the OMP. In (b) and (c), N1 is the coding sequence of the N-terminus of OMP OprF and permits expression of enough N-terminal amino acids to permit expression of a peptide fused at R1 to be expressed on the OMP surface, and provides the coding sequence of a bacterial leader sequence to allow processing and translocation to the outer membrane, C1 is the actual OprF C-terminus or a synthetic sequence and P and R1 are as above, (2) a plasmid comprising this DNA, (3) Gram-negative bacteria transformed with this plasmid, and (4) plasmid pRW3.

USE/ADVANTAGE - The DNA sequence has sites for insertion of DNA encoding proteins of interest. These proteins are useful as peptide **antigens** on the surface of Gram-negative bacteria which can then be used as live vaccines. It can also be used for mapping of **antigenic** epitopes, identifying sequences of amino acids that constitute epitopes that can be used in the diagnosis of disease, or in the prodn. of specific antibodies against peptide sequences. The vaccine has advantages over other prepns. as **OprF** can directly stimulate immunologically important lymphocytes and has vaccine potential against Pseudomonas **aeruginosa** infections, and recombinant **OprF** from E. coli has been used to protect against Pseudomonas infections.
Dwg.0/9

L8 ANSWER 29 OF 67 TOXLIT
ACCESSION NUMBER: 1994:51760 TOXLIT
DOCUMENT NUMBER: CA-120-184650N
TITLE: Use of protein OprF for bacterial cell surface expression of oligopeptides and production of vaccines.
AUTHOR: Hancock RE W; Wong R
SOURCE: (1993). PCT Int. Appl. PATENT NO. 93 24636 12/09/93 (University of British Columbia).
PUB. COUNTRY: Canada

DOCUMENT TYPE: Patent
FILE SEGMENT: CA
LANGUAGE: English
OTHER SOURCE: CA 120:184650
ENTRY MONTH: 199405

AB A coding sequence for at least the amino terminal portion of an **outer membrane protein** (such as Pseudomonas **aeruginosa** gene **oprF** protein) in which .gtoreq.1 restriction enzyme sites have been inserted for ligation of a coding sequence for a peptide **antigen**, and/or to which such a peptide **antigen** coding sequence may be fused is described. This sequence may be expressed in Gram-neg. bacteria to produce vaccines or to identify peptides which might be useful in diagnosis of disease. A series of 11 plasmids, each contg. the **oprF** gene with linker sequences inserted into a different site, were prepd. A sequence encoding a malaria epitope was inserted into these sites, and the chimeric genes were expressed in Escherichia coli. The recombinant E. coli reacted with two malaria-specific monoclonal antibodies.

L8 ANSWER 30 OF 67 MEDLINE DUPLICATE 25
ACCESSION NUMBER: 94049125 MEDLINE
DOCUMENT NUMBER: 94049125 PubMed ID: 7901733
TITLE: Characterization of pilQ, a new gene required for the biogenesis of type 4 fimbriae in Pseudomonas aeruginosa.
AUTHOR: Martin P R; Hobbs M; Free P D; Jeske Y; Mattick J S
CORPORATE SOURCE: Centre for Molecular Biology and Biotechnology, University of Queensland, Brisbane, Australia.
SOURCE: MOLECULAR MICROBIOLOGY, (1993 Aug) 9 (4) 857-68. Journal code: MOM; 8712028. ISSN: 0950-382X.
PUB. COUNTRY: ENGLAND: United Kingdom
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
OTHER SOURCE: GENBANK-L1386; GENBANK-L13865; GENBANK-L13866
ENTRY MONTH: 199312
ENTRY DATE: Entered STN: 19940117
Last Updated on STN: 19950206
Entered Medline: 19931221

AB Type 4 fimbriae are produced by a variety of pathogens, in which they appear to function in adhesion to epithelial cells, and in a form of surface translocation called twitching motility. Using transposon mutagenesis of Pseudomonas **aeruginosa**, we have identified a new locus required for fimbrial assembly. This locus contains the gene pilQ which encodes a 77 kDa protein with an N-terminal hydrophobic signal sequence characteristic of secretory proteins. pilQ mutants lack the spreading colony morphology characteristic of twitching motility, are devoid of fimbriae, and are resistant to the fimbrial-specific bacteriophage PO4. The pilQ gene was mapped to SpeI fragment 2, which is located at 0-5 minutes on the P. **aeruginosa** PAO1 chromosome, and thus it is not closely linked to the previously characterized pilA-D, pilS,R or pilT genes. The pilQ region also contains ponA, aroK and aroB-like genes in an organization very similar to that of corresponding genes in Escherichia coli and Haemophilus influenzae. The predicted amino acid sequence of PilQ shows homology to the PulD protein of Klebsiella oxytoca and related **outer membrane**

proteins which have been found in association with diverse functions in other species including protein secretion, DNA uptake and assembly of filamentous phage. PilQ had the highest overall homology to an outer membrane **antigen** from Neisseria gonorrhoeae, encoded by omc, that may fulfil the same role in type 4 fimbrial assembly in this species.

L8 ANSWER 31 OF 67 MEDLINE DUPLICATE 26
ACCESSION NUMBER: 94066152 MEDLINE
DOCUMENT NUMBER: 94066152 PubMed ID: 8246267
TITLE: Role of IgG subclass response to outer-membrane proteins in inhibiting adhesion of Pseudomonas aeruginosa to epithelial cells.
AUTHOR: Morrin M; Reen D J
CORPORATE SOURCE: Children's Research Centre, Our Lady's Hospital for Sick Children, Crumlin, Dublin.
SOURCE: JOURNAL OF MEDICAL MICROBIOLOGY, (1993 Dec) 39 (6) 467-72.
Journal code: J2N; 0224131. ISSN: 0022-2615.
PUB. COUNTRY: SCOTLAND: United Kingdom
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199401
ENTRY DATE: Entered STN: 19940201
Last Updated on STN: 19940201
Entered Medline: 19940104

AB The IgG subclass response to the major **outer-membrane proteins** (**OMPs**) of Pseudomonas **aeruginosa** was investigated in 11 cystic fibrosis (CF) patients and 10 healthy controls. Inhibition of adhesion of P. **aeruginosa** to buccal epithelial cells by the IgG serum fractions from the CF patients has been established previously. The CF patients demonstrated marked heterogeneity in their individual IgG subclass response to pseudomonal **OMPs**. The predominant IgG1 and IgG4 responses were directed towards **OMPs** F, H2 and, with IgG1 only, to protein I. Proteins of 42 and 46 kDa primarily elicited an IgG2 response but some patients produced IgG4 antibodies. The IgG3 response varied from very weak in some patients to a strong reaction with proteins D2, E, G and I in others. The range of **antigen**-specific IgG subclass responses was similar in CF patients whose IgG fractions strongly inhibited the adherence of P. **aeruginosa** to epithelial cells and in those whose fractions gave only weak inhibition of adherence. There was no indication that an antibody response towards any particular **OMP** was implicated in the inhibition of bacterial adherence. Thus, the IgG subclass response to **OMPs** did not exert a significant effect on adherence when investigated in isolation, but may possibly play some role in combination with other processes.

L8 ANSWER 32 OF 67 MEDLINE DUPLICATE 27
ACCESSION NUMBER: 94095123 MEDLINE
DOCUMENT NUMBER: 94095123 PubMed ID: 7505760
TITLE: Conservation of surface epitopes in Pseudomonas aeruginosa outer membrane porin protein OprF.
AUTHOR: Martin N L; Rawling E G; Wong R S; Rosok M; Hancock R E
CORPORATE SOURCE: Department of Microbiology, University of British

Columbia, Vancouver, Canada.
SOURCE: FEMS MICROBIOLOGY LETTERS, (1993 Nov 1) 113 (3) 261-6.
Journal code: FML; 7705721. ISSN: 0378-1097.
PUB. COUNTRY: Netherlands
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199401
ENTRY DATE: Entered STN: 19940215
Last Updated on STN: 19960129
Entered Medline: 19940128

AB The **outer membrane proteins** of several prominent bacterial pathogens demonstrate substantial variation in their surface **antigenic** epitopes. To determine if this was also true for Pseudomonas **aeruginosa outer membrane protein OprF**, gene sequencing of a serotype 5 isolate was performed to permit comparison with the published serotype 12 **oprF** gene sequence. Only 16 nucleotide substitutions in the 1053 nucleotide coding region were observed; none of these changed the amino acid sequence. A panel of 10 monoclonal antibodies (mAbs) reacted with each of 46 P. **aeruginosa** strains representing all 17 serotype strains, 12 clinical isolates, 15 environmental isolates and 2 laboratory isolates. Between two and eight of these mAbs also reacted with proteins from representatives of the rRNA homology group I of the Pseudomonadaceae. Nine of the ten mAbs recognized surface **antigenic** epitopes as determined by indirect immunofluorescence techniques and their ability to opsonize P. **aeruginosa** for phagocytosis. These epitopes were partially masked by lipopolysaccharide side chains as revealed using a side chain-deficient mutant. It is concluded that **OprF** is a highly conserved protein with several conserved surface **antigenic** epitopes.

L8 ANSWER 33 OF 67 MEDLINE DUPLICATE 28

ACCESSION NUMBER: 93324236 MEDLINE
DOCUMENT NUMBER: 93324236 PubMed ID: 8332395

TITLE: [Serology of anti-Pseudomonas aeruginosa and mucoviscidosis: diagnostic aid in the differentiation between colonization and infection].
Serologie anti-Pseudomonas aeruginosa et mucoviscidose: aide au diagnostic des etats de colonisation et d'infection.

AUTHOR: Recule C; Croize J; Coppere C; Hirtz P; Gout J P; Le Noc P
CORPORATE SOURCE: Laboratoire de Bacteriologie, CHRU de Grenoble, France.

SOURCE: PATHOLOGIE BIOLOGIE, (1993 Mar) 41 (3) 249-54.
Journal code: OSG; 0265365. ISSN: 0369-8114.
PUB. COUNTRY: France
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: French
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199308
ENTRY DATE: Entered STN: 19930826
Last Updated on STN: 19930826
Entered Medline: 19930816

AB Serologic test for Pseudomonas **aeruginosa** have been found useful for differentiating colonization from infection, especially in chronic disease. A Western blot method was compared with the ELISA used routinely. The Western blot detected serum IgGs against P. **aeruginosa outer membrane proteins**, whereas the ELISA reacted with IgGs against soluble P. **aeruginosa antigens**. Among the 103 sera from 58 cystic fibrosis patients studied, all those with ELISA reactivity were positive by Western blot. The antibody response was detected earlier by Western blot than by ELISA, suggesting that the former technique may be useful for the early diagnosis of infection.

L8 ANSWER 34 OF 67 MEDLINE DUPLICATE 29

ACCESSION NUMBER: 92363538 MEDLINE
DOCUMENT NUMBER: 92363538 PubMed ID: 1379985
TITLE: Synthetic peptides representing epitopes of outer membrane protein F of Pseudomonas aeruginosa that elicit antibodies reactive with whole cells of heterologous immunotype strains of P. aeruginosa.
AUTHOR: Hughes E E; Gilleland L B; Gilleland H E Jr
CORPORATE SOURCE: Department of Microbiology and Immunology, Louisiana State University Medical Center, School of Medicine, Shreveport 71130.
SOURCE: INFECTION AND IMMUNITY, (1992 Sep) 60 (9) 3497-503. Journal code: GO7; 0246127. ISSN: 0019-9567.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199209
ENTRY DATE: Entered STN: 19920925
Last Updated on STN: 19960129
Entered Medline: 19920917

AB By using the published amino acid sequence for mature **outer membrane protein** F of Pseudomonas **aeruginosa**, a computer-assisted analysis was performed to identify sites with potential as surface-exposed, **antigenic** regions located throughout the length of the protein molecule. Synthetic peptides 13 to 15 amino acid residues in length were synthesized for 10 such regions. Mice were immunized with each of the 10 synthetic peptides conjugated to keyhole limpet hemocyanin. An enzyme-linked immunosorbent assay (ELISA) of the antisera was performed by using each of the synthetic peptides as the ELISA **antigen** to verify that immunoglobulin G (IgG) antibodies capable of reacting with the peptide used as immunogen were elicited by each peptide. Each of the antipeptide antisera was screened for the presence of IgG antibodies that could bind to the surface of intact cells of strains representing the seven heterologous Fisher-Devlin immunotypes of P. **aeruginosa** by use of an ELISA with whole cells of the various strains as the ELISA **antigen**. Three peptides elicited antibodies capable of reacting with whole cells of all seven immunotype strains. Peptide 10, corresponding to amino acid residues 305 to 318, elicited whole-cell-reactive antibodies at high titers. Peptide 9, corresponding to amino acid residues 261 to 274, elicited whole-cell-reactive antibodies at more intermediate titers. Peptide 7, corresponding to amino acid residues 219 to 232, elicited such antibodies only at low titers. The carboxy-terminal portion of the

mature protein appears to be the immunodominant portion. In particular, peptides 10 (NATAEGRAINRRVE) and 9 (TDAYNQKLSERRAN) appear to have potential for use as immunogens in a synthetic vaccine for immunoprophylaxis against infections caused by P. **aeruginosa**. Antisera from mice immunized with either peptide 9 or 10 mediated opsonophagocytic uptake by human polymorphonuclear leukocytes of wild-type cells of P. **aeruginosa** but exhibited no opsonic activity against a protein F-deficient mutant of P. **aeruginosa**.

L8 ANSWER 35 OF 67 MEDLINE
ACCESSION NUMBER: 92100557 MEDLINE
DOCUMENT NUMBER: 92100557 PubMed ID: 1722035
TITLE: Longitudinal serum IgG response to Pseudomonas cepacia surface antigens in cystic fibrosis.
AUTHOR: Aronoff S C; Quinn F J Jr; Stern R C
CORPORATE SOURCE: Department of Pediatrics, West Virginia University School of Medicine, Morgantown 26506.
CONTRACT NUMBER: DK27651 (NIDDK)
SOURCE: PEDIATRIC PULMONOLOGY, (1991) 11 (4) 289-93.
Journal code: OWH; 8510590. ISSN: 8755-6863.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199202
ENTRY DATE: Entered STN: 19920223
Last Updated on STN: 19960129
Entered Medline: 19920206

AB In cystic fibrosis (CF), serum antibody against surface **antigens** of Pseudomonas **aeruginosa** is detected only after colonization. Since pulmonary acquisition of P. cepacia usually follows colonization with P. **aeruginosa** and since P. **aeruginosa**-colonized patients with CF have demonstrable antibody against **outer membrane proteins** of P. cepacia, it appears that acquisition of the latter organism occurs in the presence of specific serum antibody. To test this hypothesis, serum obtained from six P. **aeruginosa** -colonized patients 4 and 2 years prior to and 3 months and 2 years after P. cepacia colonization were assayed for total and specific IgG to P. cepacia outer membrane components. Four patients demonstrated 6-fold or greater increases in specific IgG titers to whole outer membranes following colonization. By immunoblot, all patients had demonstrable serum IgG against the 27- and 36-kDa **outer membrane proteins** of P. cepacia 4 and 2 years prior to colonization. Immunoblots after P. cepacia acquisition demonstrated an intensification of the 28- and 36-kDa bands and the appearance of antibody to a very low molecular weight compound which was not hydrolyzed by proteinase K and was present in purified LPS. These observations suggest that low serum titers of antibody against two P. cepacia **outer membrane proteins** are present in patients with CF prior to P. cepacia colonization, and that these antibodies fail to protect for intrinsic or extrinsic reasons.

L8 ANSWER 36 OF 67 MEDLINE DUPLICATE 30
ACCESSION NUMBER: 91202091 MEDLINE
DOCUMENT NUMBER: 91202091 PubMed ID: 1901901

TITLE: Production and characterization of monoclonal antibodies to outer membrane proteins of Pseudomonas aeruginosa grown in iron-depleted media.
AUTHOR: Smith A W; Wilton J; Clark S A; Alpar O; Melling J; Brown M R
CORPORATE SOURCE: Microbiology Research Group, Aston University, Birmingham, UK.
SOURCE: JOURNAL OF GENERAL MICROBIOLOGY, (1991 Feb) 137 (Pt 2) 227-36.
Journal code: I87; 0375371. ISSN: 0022-1287.
PUB. COUNTRY: ENGLAND: United Kingdom
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199105
ENTRY DATE: Entered STN: 19910607
Last Updated on STN: 19970203
Entered Medline: 19910523

AB The iron uptake systems of pathogenic bacteria provide potential targets for immunological intervention. We have partially purified the high molecular mass, iron-regulated **outer membrane proteins** (IROMPs) from Pseudomonas **aeruginosa** and used them to prepare a panel of monoclonal antibodies (mAbs). Five mAbs reacted with an 85 kDa IROMP separated by SDS-PAGE, but gave only low-level binding to whole cells by immunogold electron microscopy. However, iodination of whole cells indicated that the 85 kDa IROMP is surface-exposed. The mAbs were only cross-reactive with clinical isolates representing eight of the 17 International **Antigenic** Typing Scheme serotypes of P. **aeruginosa**, suggesting significant heterogeneity with respect to this IROMP.

L8 ANSWER 37 OF 67 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1991:381455 BIOSIS
DOCUMENT NUMBER: BR41:53845
TITLE: ANALYSIS OF IMMUNOGLOBULIN-G SUBCLASS RESPONSES IN CYSTIC FIBROSIS BY IMMUNOBLOT USING WHOLE PSEUDOMONAS-**AERUGINOSA ANTIGENS** AND PURIFIED **OUTER MEMBRANE PROTEINS**.
AUTHOR(S): LIKAVCANOVA E; LAGACE J
CORPORATE SOURCE: UNIV. MONTREAL, MONTREAL, CANADA.
SOURCE: 91ST GENERAL MEETING OF THE AMERICAN SOCIETY FOR MICROBIOLOGY 1991, DALLAS, TEXAS, USA, MAY 5-9, 1991. ABSTR GEN MEET AM SOC MICROBIOL, (1991) 91 (0), 131. CODEN: AGMME8.
DOCUMENT TYPE: Conference
FILE SEGMENT: BR; OLD
LANGUAGE: English

L8 ANSWER 38 OF 67 MEDLINE DUPLICATE 31
ACCESSION NUMBER: 92029411 MEDLINE
DOCUMENT NUMBER: 92029411 PubMed ID: 1930557
TITLE: Evaluation of protective mAbs against Pseudomonas aeruginosa outer membrane protein I by C1q binding assay.
AUTHOR: Eckhardt A; Heiss M M; Ehret W; Permanetter W; Duchene M; Domdey H; von Specht B U

CORPORATE SOURCE: Institut fur Chirurgische Forschung, Univ. Munchen.
SOURCE: ZENTRALBLATT FUR BAKTERIOLOGIE, (1991 Apr) 275 (1) 100-11.
Journal code: BD7; 9203851. ISSN: 0934-8840.
PUB. COUNTRY: GERMANY: Germany, Federal Republic of
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199112
ENTRY DATE: Entered STN: 19920124
Last Updated on STN: 19980206
Entered Medline: 19911224

AB Seven monoclonal antibodies (mAbs) against the **outer membrane proteins** (**OPRs**) F, H and I of Pseudomonas **aeruginosa** were prepared. Western blot analysis has shown the mAbs to cross-react with all 17 serotypes of P. **aeruginosa** according to the International **Antigenic** Typing Scheme. Two of the mAbs (2A1, 6A4) protected mice against fatal P. **aeruginosa** pneumonia. The protective potential of the mAbs did not correlate with the immunoglobulin isotype nor with the fine **antigen** specificity and the in vitro bactericidal activity of the mAbs. Only the binding of the first complement component C1q of the mAbs as estimated in vitro by an ELISA was significantly correlated with their protective potential.

L8 ANSWER 39 OF 67 MEDLINE DUPLICATE 32
ACCESSION NUMBER: 91207197 MEDLINE
DOCUMENT NUMBER: 91207197 PubMed ID: 1902081
TITLE: Dermal and serological response against Pseudomonas aeruginosa in sheep bred for resistance and susceptibility to fleece-rot.
AUTHOR: Chin J C; Watts J E
CORPORATE SOURCE: Elizabeth Macarthur Agricultural Institute, Camden, New South Wales.
SOURCE: AUSTRALIAN VETERINARY JOURNAL, (1991 Jan) 68 (1) 28-31.
Journal code: 9IE; 0370616. ISSN: 0005-0423.
PUB. COUNTRY: Australia
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199105
ENTRY DATE: Entered STN: 19910607
Last Updated on STN: 19910607
Entered Medline: 19910522

AB Genetically select lines of Merino sheep have been bred at Trangie (NSW Agriculture and Fisheries) for resistance (R) or susceptibility (S) to fleece-rot and flystrike. It is believed that fleece characters are primarily responsible for the R or S phenotype. When transferred to the wetter coastal environment of Sydney, R and S sheep with no more than 6 weeks wool cover, continued to show significant differences in the incidence and severity of fleece-rot dermatitis. To test the hypothesis that these sheep might also exhibit differences in their local skin reactions and immune responsiveness, 3 intradermal injections of killed Pseudomonas **aeruginosa** were administered at monthly intervals. After primary intradermal challenge, R sheep had a higher incidence of

skin induration and a stronger inflammatory response (increased induration diameter) than S sheep. Compared to S sheep, R sheep also developed higher levels of circulating antibodies against whole cell **antigen** and both inner and **outer membrane proteins** of P. **aeruginosa**. These responses were maintained in R sheep with each consecutive challenge while S sheep showed a decline in their immune responsiveness. Differences in antibody response against **outer membrane proteins** were also detected when **antigenically** naive sheep from each genetic line were sensitised by epicutaneous challenge with P. **aeruginosa** under experimental wetting conditions. Intradermal challenge of these animals 6 months later with **outer membrane proteins**, revealed a late maximum (72 h) in the development of induration diameters for R sheep while S animals showed maximal induration diameters by 24 h. However, there was no significant difference in induration response between 24 h and 72 h within each group of sheep.(ABSTRACT TRUNCATED AT 250 WORDS)

L8 ANSWER 40 OF 67 MEDLINE DUPLICATE 33
ACCESSION NUMBER: 90307229 MEDLINE
DOCUMENT NUMBER: 90307229 PubMed ID: 2114360
TITLE: Protection against experimental Pseudomonas aeruginosa infection by recombinant P. aeruginosa lipoprotein I expressed in Escherichia coli.
AUTHOR: Finke M; Duchene M; Eckhardt A; Domdey H; von Specht B U
CORPORATE SOURCE: Chirurgische Universitatsklinik, Chirurgische Forschung, Freiburg, Federal Republic of Germany.
SOURCE: INFECTION AND IMMUNITY, (1990 Jul) 58 (7) 2241-4. Journal code: GO7; 0246127. ISSN: 0019-9567.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199008
ENTRY DATE: Entered STN: 19900921
Last Updated on STN: 19900921
Entered Medline: 19900813

AB Lipoprotein I (**OprI**) is one of the major proteins of the outer membrane of Pseudomonas **aeruginosa**. **OprI** is a candidate for a vaccine against P. **aeruginosa**, because it cross-reacts **antigenically** in all serotype strains of the International **Antigenic** Typing Scheme. We recently cloned and expressed the gene coding for **OprI** in Escherichia coli. This heterologously expressed **OprI** was used successfully to immunize mice against P. **aeruginosa**. In addition, **OprI** from serogroup 12 of P. **aeruginosa** was highly purified by preparative isoelectric focusing and used for immunization of mice. Both vaccines protected the mice against a challenge with a four- to fivefold 50% lethal dose of P. **aeruginosa**.

L8 ANSWER 41 OF 67 MEDLINE DUPLICATE 34
ACCESSION NUMBER: 90198122 MEDLINE
DOCUMENT NUMBER: 90198122 PubMed ID: 2107827
TITLE: Induction of experimental chronic Pseudomonas aeruginosa lung infection with P. aeruginosa

entrapped in alginate microspheres.

AUTHOR: Pedersen S S; Shand G H; Hansen B L; Hansen G N
CORPORATE SOURCE: Dept. of Clinical Microbiology, Rigshospitalet, Statens Seruminstitut, Copenhagen, Denmark.

SOURCE: APMIS, (1990 Mar) 98 (3) 203-11.
Journal code: AMS; 8803400. ISSN: 0903-4641.
PUB. COUNTRY: Denmark
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199005
ENTRY DATE: Entered STN: 19900601
Last Updated on STN: 19970203
Entered Medline: 19900502

AB Alginate-producing, mucoid P. **aeruginosa** is frequently found in the lungs of patients with cystic fibrosis (CF), where it causes a chronic infection. The importance of alginate in the pathogenesis was demonstrated by the ability to establish chronic P. **aeruginosa** lung infection in rats if P. **aeruginosa** entrapped in minute alginate-beads were inoculated transtracheally. Alginate beads containing P. **aeruginosa** were formed by nebulizing a suspension of seaweed sodium-alginate and P. **aeruginosa** into a calcium solution. The alginate bead method of establishing infection was compared to an agar-bead method and proved to be quantitatively similar after 4 weeks. The ability of the two methods to induce formation of precipitins, IgA and IgG antibodies against P. **aeruginosa antigens,** including **outer membrane proteins,** flagella, exoenzymes and alginate, was assessed by crossed immunoelectrophoresis, enzyme-linked immunosorbent assay and immunoblotting. The two methods of inducing infection were comparable and infected rats had significantly higher antibody response than rats inoculated with sterile beads. We suggest that the alginate bead model closely resembles the later stages of CF-lung infection and that it offers the theoretical advantage of using a substance which is chemically similar to the alginate produced in vivo by P. **aeruginosa.**

L8 ANSWER 42 OF 67 WPIDS COPYRIGHT 2002 DERWENT INFORMATION LTD
DUPLICATE 35

ACCESSION NUMBER: 1989-266867 [37] WPIDS
DOC. NO. NON-CPI: N1989-203467
DOC. NO. CPI: C1989-118371
TITLE: Human monoclonal antibody - bonds almost all serotype Pseudomonas aeruginosa so is effective in treating infections.

DERWENT CLASS: B04 D16 S03
PATENT ASSIGNEE(S): (SUMO) SUMITOMO CHEM IND KK; (SUMU) SUMITOMO SEIYAKU KK

COUNTRY COUNT: 1
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
JP 01193300	A	19890803	(198937)*		12

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
JP 01193300	A	JP 1988-17958	19880127

PRIORITY APPLN. INFO: JP 1988-17958 19880127
AN 1989-266867 [37] WPIDS
AB JP 01193300 A UPAB: 19930923
Human monoclonal antibody which has specific bond against common **antigen OMP**-19 of Pseudomonas **aeruginosa** has following physico-chemical properties: (a) constitutional components; albuminous substance which disappears it's **antigenicity** by proteinase K treatment. (b) m.w.; In heat treatment at 73 deg. C for 10 min., in the presence of 1% Na-dodecyl sulphate and 5% 2-mercaptoethanol, apparent m.w. is 19,000 by 0.2% Na-dodecyl sulphate 12.5% polyacrylamide gel electrophoresis under reduced condition, also in heat treatment at 100 deg. C for 10 min. under the same conditions, the apparent m.w. is 25,000 by the same condition's electrophoresis. (c) specificity; common **antigen** , which is not depending on sero-type of Pseudomonas **aeruginosa**, and existing in outer membrane fraction of almost all Pseudomonas **aeruginosa**.
USE/ADVANTAGE - The monoclonal antibody bonds almost all sero-type Pseudomonas aeruginosa commonly, and effective for the infections. Daily dose for an adult is 0.5-500 mg, pref. 5-50 mg.
0/0

L8 ANSWER 43 OF 67 TOXCENTER COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1990:121495 TOXCENTER
COPYRIGHT: Copyright 2002 ACS
DOCUMENT NUMBER: CA11211096842F
TITLE: Monoclonal antibody to Pseudomonas **aeruginosa antigen OMP** -19
AUTHOR(S): Ouchi, Hiroshi; Otsuka, Hiroshi; Higuchi, Atsuko; Yokota, Shinichi; Noguchi, Hiroshi; Kozuki, Tsuneo; Kato, Masuhiro; Okuda, Takao
CORPORATE SOURCE: ASSIGNEE: Sumitomo Pharmaceuticals Co., Ltd.
PATENT INFORMATION: JP 89193300 A2 3 Aug 1989
SOURCE: (1989) Jpn. Kokai Tokkyo Koho, 12 pp.
CODEN: JKXXAF.
COUNTRY: JAPAN
DOCUMENT TYPE: Patent
FILE SEGMENT: CAPLUS
OTHER SOURCE: CAPLUS 1990:96842
LANGUAGE: Japanese
ENTRY DATE: Entered STN: 20011116
Last Updated on STN: 20011116
AN 1990:121495 TOXCENTER
CP Copyright 2002 ACS
AB The title monoclonal antibody, useful for clin. therapy and diagnosis, is produced by the conventional hybridoma method. The hybridoma is designated as hybridoma K-1H5. The monoclonal antibody administered i.p. to P. aeruginosa-infected mice markedly controlled the infection.

L8 ANSWER 44 OF 67 MEDLINE DUPLICATE 36
ACCESSION NUMBER: 89327122 MEDLINE

DOCUMENT NUMBER: 89327122 PubMed ID: 2502533
TITLE: Pseudomonas aeruginosa outer membrane lipoprotein I gene: molecular cloning, sequence, and expression in Escherichia coli.
AUTHOR: Duchene M; Barron C; Schweizer A; von Specht B U; Domdey H
CORPORATE SOURCE: Laboratorium fur Molekulare Biologie, Ludwig-Maximilians-Universitat Munchen, Federal Republic of Germany.
SOURCE: JOURNAL OF BACTERIOLOGY, (1989 Aug) 171 (8) 4130-7. Journal code: HH3; 2985120R. ISSN: 0021-9193.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
OTHER SOURCE: GENBANK-M25761
ENTRY MONTH: 198908
ENTRY DATE: Entered STN: 19900309
Last Updated on STN: 19900309
Entered Medline: 19890830

AB Lipoprotein I (**OprI**) is one of the major proteins of the outer membrane of Pseudomonas **aeruginosa**. Like porin protein F (**OprF**), it is a vaccine candidate because it **antigenically** cross-reacts with all serotype strains of the International **Antigenic** Typing Scheme. Since lipoprotein I was expressed in Escherichia coli under the control of its own promoter, we were able to isolate the gene by screening a lambda EMBL3 phage library with a mouse monoclonal antibody directed against lipoprotein I. The monocistronic **OprI** mRNA encodes a precursor protein of 83 amino acid residues including a signal peptide of 19 residues. The mature protein has a molecular weight of 6,950, not including bound glycerol and lipid. Although the amino acid sequences of protein I of P. **aeruginosa** and Braun's lipoprotein of E. coli differ considerably (only 30.1% identical amino acid residues), peptidoglycan in E. coli, are identical. Using lipoprotein I expressed in E. coli, it can now be tested whether this protein alone, without P. **aeruginosa** lipopolysaccharide contaminations, has a protective effect against P. **aeruginosa** infections.

L8 ANSWER 45 OF 67 EMBASE COPYRIGHT 2002 ELSEVIER SCI. B.V.
ACCESSION NUMBER: 89046353 EMBASE
DOCUMENT NUMBER: 1989046353
TITLE: Surface characteristics of Pseudomonas aeruginosa grown in a chamber implant model in mice and rats.
AUTHOR: Kelly N.M.; Bell A.; Hancock R.E.W.
CORPORATE SOURCE: Department of Microbiology, University of British Columbia, Vancouver, BC V6T 1W5, Canada
SOURCE: Infection and Immunity, (1989) 57/2 (345-350). ISSN: 0019-9567 CODEN: INFIBR
COUNTRY: United States
DOCUMENT TYPE: Journal
FILE SEGMENT: 004 Microbiology
LANGUAGE: English
SUMMARY LANGUAGE: English

AB Pseudomonas **aeruginosa** PAO1 was grown in vivo in chambers implanted into the peritoneums of mice and rats. Sodium dodecyl sulfate-polyacrylamide gel electrophoresis of extracts of bacterial

cells taken from the chambers and washed to remove loosely bound host proteins revealed the presence of the major **outer membrane proteins** D2, E, F, G, and H2. Western immunoblotting with specific antisera confirmed the presence of porin protein F and lipoprotein H2. However, there was no apparent induction of the phosphate starvation-inducible porin P or the divalent cation starvation-inducible protein H1. Small amounts of proteins with molecular weights similar to those of the iron-regulated **outer membrane proteins** were found in cells grown in vivo; however, their presence could not be confirmed immunologically. The presence of pili and flagella on the cells grown in vivo was demonstrated by electron microscopy and Western immunoblotting. A consistent alteration in the lipopolysaccharide banding pattern was observed after growth in vivo. Compared with cells of strain PAO1 grown in vitro, cells grown in vivo appeared to lack a series of high-molecular-weight O-**antigen**-containing lipopolysaccharide bands and gained a new series of lower-molecular-weight lipopolysaccharide bands. This alteration in the lipopolysaccharide after growth in vivo did not affect the O-**antigen** serotype or the resistance of the bacteria to serum.

L8 ANSWER 46 OF 67 MEDLINE DUPLICATE 37
ACCESSION NUMBER: 89108571 MEDLINE
DOCUMENT NUMBER: 89108571 PubMed ID: 2492257
TITLE: Surface characteristics of Pseudomonas aeruginosa grown in a chamber implant model in mice and rats.
AUTHOR: Kelly N M; Bell A; Hancock R E
CORPORATE SOURCE: Department of Microbiology, University of British Columbia, Vancouver, Canada.
SOURCE: INFECTION AND IMMUNITY, (1989 Feb) 57 (2) 344-50. Journal code: GO7; 0246127. ISSN: 0019-9567.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198903
ENTRY DATE: Entered STN: 19900308
Last Updated on STN: 19900308
Entered Medline: 19890301

AB Pseudomonas **aeruginosa** PAO1 was grown in vivo in chambers implanted into the peritoneums of mice and rats. Sodium dodecyl sulfate-polyacrylamide gel electrophoresis of extracts of bacterial cells taken from the chambers and washed to remove loosely bound host proteins revealed the presence of the major **outer membrane proteins** D2, E, F, G, and H2. Western immunoblotting with specific antisera confirmed the presence of porin protein F and lipoprotein H2. However, there was no apparent induction of the phosphate starvation-inducible porin P or the divalent cation starvation-inducible protein H1. Small amounts of proteins with molecular weights similar to those of the iron-regulated **outer membrane proteins** were found in cells grown in vivo; however, their presence could not be confirmed immunologically. The presence of pili and flagella on the cells grown in vivo was demonstrated by electron microscopy and Western immunoblotting. A consistent alteration in the lipopolysaccharide banding pattern was observed after growth in vivo. Compared with cells of strain PAO1 grown in vitro, cells grown

in vivo appeared to lack a series of high-molecular-weight O-**antigen**-containing lipopolysaccharide bands and gained a new series of lower-molecular-weight lipopolysaccharide bands. This alteration in the lipopolysaccharide after growth in vivo did not affect the O-**antigen** serotype or the resistance of the bacteria to serum.

L8 ANSWER 47 OF 67 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1989:375016 BIOSIS
DOCUMENT NUMBER: BR37:54139
TITLE: **ANTIGENIC** CHARACTERIZATION OF CIRCULATING IMMUNE COMPLEXES FROM CYSTIC FIBROSIS PATIENTS WITH MONOCLONAL ANTIBODIES AGAINST PSEUDOMONAS-**AERUGINOSA OUTER MEMBRANE PROTEINS**.
AUTHOR(S): FOURNIER D; LAGACE J
CORPORATE SOURCE: UNIV. MONTREAL, MONTREAL, CAN.
SOURCE: 89TH ANNUAL MEETING OF THE AMERICAN SOCIETY FOR MICROBIOLOGY, NEW ORLEANS, LOUISIANA, USA, MAY 14-18, 1989. ABSTR ANNU MEET AM SOC MICROBIOL, (1989) 89 (0), 146.
CODEN: ASMACK. ISSN: 0094-8519.
DOCUMENT TYPE: Conference
FILE SEGMENT: BR; OLD
LANGUAGE: English

L8 ANSWER 48 OF 67 MEDLINE DUPLICATE 38
ACCESSION NUMBER: 88198029 MEDLINE
DOCUMENT NUMBER: 88198029 PubMed ID: 2834340
TITLE: Cloning of the Pseudomonas aeruginosa outer membrane porin protein P gene: evidence for a linked region of DNA homology.
AUTHOR: Siehnel R J; Worobec E A; Hancock R E
CORPORATE SOURCE: Department of Microbiology, University of British Columbia, Vancouver, Canada.
SOURCE: JOURNAL OF BACTERIOLOGY, (1988 May) 170 (5) 2312-8.
Journal code: HH3; 2985120R. ISSN: 0021-9193.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198806
ENTRY DATE: Entered STN: 19900308
Last Updated on STN: 19990129
Entered Medline: 19880609

AB The gene encoding the outer membrane phosphate-selective porin protein P from Pseudomonas **aeruginosa** was cloned into Escherichia coli. The protein product was expressed and transported to the outer membrane of an E. coli phoE mutant and assembled into functional trimers. Expression of a product of the correct molecular weight was confirmed by sodium dodecyl sulfate-polyacrylamide gel electrophoresis and Western blot (immunoblot) analysis, using polyclonal antibodies to protein P monomer and trimer forms. Protein P trimers were partially purified from the E. coli clone and shown to form channels with the same conductance as those formed by protein P from P. **aeruginosa**. The location and orientation of the protein P-encoding (**oprP**) gene on the cloned DNA was identified by three methods: (i) mapping the insertion point of

transposon Tn501 in a previously isolated P. **aeruginosa** protein P-deficient mutant; (ii) hybridization of restriction fragments from the cloned DNA to an oligonucleotide pool synthesized on the basis of the amino-terminal protein sequence of protein P; and (iii) fusion of a PstI fragment of the cloned DNA to the amino terminus of the beta-galactosidase gene of pUC8, producing a fusion protein that contained protein P-**antigenic** epitopes. Structural analysis of the cloned DNA and P. **aeruginosa** chromosomal DNA revealed the presence of two adjacent PstI fragments which cross-hybridized, suggesting a possible gene duplication. The P-related (PR) region hybridized to the oligonucleotide pool described above. When the PstI fragment which contained the PR region was fused to the beta-galactosidase gene of pUC8, a fusion protein was produced which reacted with a protein P-specific antiserum.(ABSTRACT TRUNCATED AT 250 WORDS)

L8 ANSWER 49 OF 67 MEDLINE DUPLICATE 39
ACCESSION NUMBER: 89232725 MEDLINE
DOCUMENT NUMBER: 89232725 PubMed ID: 3149944
TITLE: Cloning and characterization of cDNAs coding for the heavy and light chains of a monoclonal antibody specific for Pseudomonas aeruginosa outer membrane protein I.
AUTHOR: Marget M; Eckhardt A; Ehret W; von Specht B U; Duchene M; Domdey H
CORPORATE SOURCE: Laboratorium fur molekulare Biologie, Ludwig Maximilians Universitat, Munchen, Martinsried, F.R.G.
SOURCE: GENE, (1988 Dec 30) 74 (2) 335-45.
Journal code: FOP; 7706761. ISSN: 0378-1119.
PUB. COUNTRY: Netherlands
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198906
ENTRY DATE: Entered STN: 19900306
Last Updated on STN: 19900306
Entered Medline: 19890619

AB A set of seven monoclonal antibodies (MAb) directed against **outer membrane proteins** of Pseudomonas **aeruginosa** has been examined by Western blot analysis, indirect immunofluorescence tests and subclass typing. The hybridoma cell line secreting MAb 6A4, which reacts with **outer membrane protein** I, belongs to the IgG2a subclass and crossreacts with the 17 P. **aeruginosa** serotypes as listed in the International **Antigenic** Typing System, was selected as source for the preparation of poly(A)+RNA which in turn was used as template for cDNA synthesis and cloning. Full length cDNA clones of the gamma heavy chain as well as the kappa light chain were obtained and characterized by nucleotide sequence analysis. The complete cDNA sequences coding for the heavy and light chains will be the prerequisite for the construction and heterologous expression of a chimeric human-mouse monoclonal antibody which might be used in therapy of P. **aeruginosa** infections.

L8 ANSWER 50 OF 67 MEDLINE DUPLICATE 40
ACCESSION NUMBER: 89068662 MEDLINE
DOCUMENT NUMBER: 89068662 PubMed ID: 3143837

TITLE: Antibody response to Pseudomonas aeruginosa surface protein antigens in a rat model of chronic lung infection.
AUTHOR: Cochrane D M; Brown M R; Anwar H; Weller P H; Lam K; Costerton J W
CORPORATE SOURCE: Pharmaceutical Sciences Institute, Aston University, Birmingham.
SOURCE: JOURNAL OF MEDICAL MICROBIOLOGY, (1988 Dec) 27 (4) 255-61.
Journal code: J2N; 0224131. ISSN: 0022-2615.
PUB. COUNTRY: ENGLAND: United Kingdom
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198901
ENTRY DATE: Entered STN: 19900308
Last Updated on STN: 19900308
Entered Medline: 19890126

AB For an animal model of infection to be useful in immunological studies it is necessary to establish that the surface **antigens** expressed by bacteria growing in vivo in the experimental infection mimic those expressed by bacteria in the human infection. In this study, chronic infection was induced by inoculating the lungs of rats with agar beads containing mucoid Pseudomonas **aeruginosa**. P. **aeruginosa** was obtained from the lungs 14 days after infection and studied without subculture. Several high-mol.-wt proteins were expressed in the outer membranes (OM) of the bacteria from the rat lungs which could be induced by cultivating the same isolate in iron-depleted conditions in vitro. The pattern of iron-regulated membrane proteins (IRMP) was similar to that obtained in an earlier study with another mucoid isolate of P. **aeruginosa** examined directly, without subculture, from the sputum of a cystic fibrosis patient. Immunoblotting with LPS-absorbed serum from infected rats and also with serum from CF patients showed that IgG in these fluids reacted with the IRMPs and other major OM proteins (**OMPs**) of P. **aeruginosa**. Antisera from rats immunised with whole cells of P. **aeruginosa** grown in iron-depleted media reacted with all the major **OMPs** of P. **aeruginosa**, including the IRMPs, confirming their immunogenicity.

L8 ANSWER 51 OF 67 MEDLINE DUPLICATE 41
ACCESSION NUMBER: 89055763 MEDLINE
DOCUMENT NUMBER: 89055763 PubMed ID: 3143013
TITLE: Antibody response to outer-membrane antigens of Pseudomonas aeruginosa in human burn wound infection.
AUTHOR: Ward K H; Anwar H; Brown R W; Wale J; Gowar J
CORPORATE SOURCE: Department of Pharmaceutical Sciences, Aston University, Birmingham.
SOURCE: JOURNAL OF MEDICAL MICROBIOLOGY, (1988 Nov) 27 (3) 179-90.
Journal code: J2N; 0224131. ISSN: 0022-2615.
PUB. COUNTRY: ENGLAND: United Kingdom
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198901
ENTRY DATE: Entered STN: 19900308

Last Updated on STN: 19900308
Entered Medline: 19890103

AB There is little information about the local and systemic antibody response to surface **antigens** of bacteria growing in situ in infected lesions in man. In this study, Pseudomonas **aeruginosa** was obtained directly from the infected wounds of two patients with burns and studied without subculture. **Outer-membrane proteins** (**OMPs**) were investigated and compared with those of cells cultivated in the laboratory, with the aim of selecting defined growth conditions to give surface **antigens** more closely resembling those found in vivo. Several high-mol. wt (77,000-101,000) proteins were expressed in the outer membranes of the bacteria from the patients and could be phenotypically induced by cultivating the same isolate in iron-depleted conditions in vitro. Other major **OMPs** (D, E, F, G and H) were also observed in cells taken from the lesions. Immunoblotting demonstrated that proteins D and E were recognised by different classes of immunoglobulins in the sera of both patients as was flagellar **antigen** present in the outer-membrane preparation of the P. **aeruginosa** from patient 1. Iron-regulated membrane proteins (IRMPs) were similarly detected, but more strongly by IgM from patient 1. Furthermore, a marked antibody response to IRMPs was noted at the site of infection. Bands of a similar intensity were seen after absorption of the sera with lipopolysaccharide (LPS) purified from the infecting strain. This indicated that the response observed was directed against **OMPs** (including IRMPs) and not against contaminating LPS.

L8 ANSWER 52 OF 67 MEDLINE DUPLICATE 42
ACCESSION NUMBER: 88214086 MEDLINE
DOCUMENT NUMBER: 88214086 PubMed ID: 2896754
TITLE: Impact of molecular biology on Pseudomonas aeruginosa immunization.
AUTHOR: Pennington J E
CORPORATE SOURCE: Department of Medicine, University of California San Francisco 94143.
SOURCE: JOURNAL OF HOSPITAL INFECTION, (1988 Feb) 11 Suppl A 96-102.
Journal code: ID6; 8007166. ISSN: 0195-6701.
PUB. COUNTRY: ENGLAND: United Kingdom
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198806
ENTRY DATE: Entered STN: 19900308
Last Updated on STN: 19950206
Entered Medline: 19880616

AB Persisting high mortalities from Pseudomonas **aeruginosa** infection have led to new strategies for treatment. In vitro and animal studies indicate that antibodies against P. **aeruginosa antigens** increase host defense against this infectious agent. The most effective immunogen is lipopolysaccharide (LPS) **antigen**; however, LPS vaccines are poorly tolerated. Furthermore, the LPS molecule does not lend itself well to production by genetic engineering. Pseudomonas **aeruginosa** protein **antigens** which might be amenable to recombinant DNA production are **outer membrane proteins** and exotoxin A, modified to

decrease toxicity but maintain immunogenicity. Another strategy for immunization with anti-LPS P. **aeruginosa** antibodies is passive administration of either hyperimmune immunoglobulins (polyclonal) or monoclonal antibodies. Passive immunization offers the dual advantage of rapid protection or treatment and is well tolerated. Several monoclonal antibodies against LPS P. **aeruginosa antigens** have been described, including both murine and human types. Studies in animal models of infection indicate that P. **aeruginosa** monoclonal antibodies do protect, thus, the most feasible application of molecular biology to the problem of P. **aeruginosa** infection appears to be production of immunotype-specific monoclonal antibodies for immune therapy.

L8 ANSWER 53 OF 67 MEDLINE DUPLICATE 43
ACCESSION NUMBER: 87193088 MEDLINE
DOCUMENT NUMBER: 87193088 PubMed ID: 2437030
TITLE: Production and characterization of monoclonal antibodies against serotype strains of Pseudomonas aeruginosa.
COMMENT: Erratum in: Infect Immun 1987 Dec;55(12):3240
AUTHOR: Lam J S; MacDonald L A; Lam M Y; Duchesne L G; Southam G G
SOURCE: INFECTION AND IMMUNITY, (1987 May) 55 (5) 1051-7. Journal code: GO7; 0246127. ISSN: 0019-9567.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198706
ENTRY DATE: Entered STN: 19900303
Last Updated on STN: 19900303
Entered Medline: 19870605

AB Monoclonal antibodies against 12 of the 17 IATS serotype strains of Pseudomonas **aeruginosa** were produced. Eighty-seven hybridoma clones were isolated, and the antibodies secreted were found to be reactive with both Formalin-fixed whole cells and purified lipopolysaccharide of homologous strains in enzyme-linked immunosorbent assays. Among these monoclonal antibodies, the predominant antibody class was immunoglobulin M (IgM) (76%), although antibodies of the IgG2a and IgG3 isotypes were also produced. The monoclonal antibodies could further be divided into two groups based on their ability to agglutinate whole cells of homologous strains. The agglutinating monoclonal antibodies were found to immunoblot with the O side chains of homologous lipopolysaccharide, while the nonagglutinating monoclonal antibodies were found to be reactive with **outer membrane protein**-associated lipopolysaccharide. The applicability of monoclonal antibodies for serotyping was examined, and several antibodies were found to agglutinate whole cells and immunoblot with the O **antigen** of corresponding serotypes of clinical isolates from cystic fibrosis patients. In conclusion, a set of monoclonal antibodies against the IATS serotype strains of P. **aeruginosa** have been produced. These antibodies represent a bank of invaluable immunological reagents which may have application in serotyping, epitope mapping, lipopolysaccharide structural determination, and studies of protection against P. **aeruginosa**.

L8 ANSWER 54 OF 67 MEDLINE DUPLICATE 44
ACCESSION NUMBER: 88123912 MEDLINE
DOCUMENT NUMBER: 88123912 PubMed ID: 3431961
TITLE: An immunohistological evaluation of Pseudomonas aeruginosa pulmonary infection in two patients with cystic fibrosis.
AUTHOR: Speert D P; Dimmick J E; Pier G B; Saunders J M; Hancock R E; Kelly N
CORPORATE SOURCE: Department of Pediatrics, University of British Columbia, Vancouver, Canada.
SOURCE: PEDIATRIC RESEARCH, (1987 Dec) 22 (6) 743-7.
Journal code: OWL; 0100714. ISSN: 0031-3998.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198802
ENTRY DATE: Entered STN: 19900308
Last Updated on STN: 19900308
Entered Medline: 19880226

AB Pseudomonas **aeruginosa** is the principal pulmonary pathogen in patients with cystic fibrosis. All attempts to date to prevent or eradicate P. **aeruginosa** infections in these patients have been unsuccessful. Vaccination against P. **aeruginosa** has been proposed as a preventive strategy but it has not been adequately evaluated. The purpose of this study was to determine whether P. **aeruginosa**, present in the lungs of patients with cystic fibrosis, express surface **antigens** similar to those grown in vitro; this issue is of critical importance when choosing bacterial products as vaccine candidates. Lung sections from two patients who died of the pulmonary complications of cystic fibrosis were studied. Bacteria, both in lung sections and isolated from the lung sections and grown in vitro, reacted strongly with polyclonal and monoclonal antibodies against P. **aeruginosa** mucoid exopolysaccharide and **outer membrane proteins** F and H2; this suggested that these **antigens** are surface exposed in vivo. It was also found that bacteria in both lung sections were associated in situ with IgG, IgA, and C3 but not with IgM or C4.

L8 ANSWER 55 OF 67 TOXLIT
ACCESSION NUMBER: 1988:19030 TOXLIT
DOCUMENT NUMBER: CA-108-032769X
TITLE: Identification and gene structure of an azurin-like protein with a lipoprotein signal peptide in Neisseria gonorrhoeae.
AUTHOR: Gotschlich EC; Seiff ME
CORPORATE SOURCE: Lab. Bacteriol. Immunol., Rockefeller Univ., New York
SOURCE: FEMS Microbiol. Lett, (1987). Vol. 43, No. 3, pp. 253-5.
CODEN: FMLED7. ISSN. 0378-1097.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
FILE SEGMENT: CA
LANGUAGE: English
OTHER SOURCE: CA 108:32769
ENTRY MONTH: 198803

AB The DNA sequence of a cloned gonococcal gene for the H.8 **antigen** was detd. The predicted protein sequence is highly homologous to the class of blue copper-contg. proteins known as azurins. However, the 127 amino acid sequence homologous to azurin is preceded by 2 unusual structural features. The gene possesses a typical 17 residue lipoprotein signal peptide and the N-terminal 39 amino acids are very rich in proline and alanine. The azurin gene of Pseudomonas **aeruginosa** has recently been characterized and possesses an ordinary signal peptide susceptible to signal peptidase I, causing export of a sol. protein to the periplasm. In gonococcus it would appear that the homologous product becomes an **outer membrane protein.**

L8 ANSWER 56 OF 67 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1987:220746 BIOSIS
DOCUMENT NUMBER: BR32:106620
TITLE: SURFACE **ANTIGENS** OF IN-VIVO GROWN PSEUDOMONAS-**AERUGINOSA** LUNG FLUID AND SERUM ANTIBODY RESPONSE TO **OUTER MEMBRANE PROTEINS** AND LIPOPOLYSACCHARIDE IN A RAT MODEL OF CHRONIC LUNG INFECTION.
AUTHOR(S): COCHRANE D M G; ANWAR H; BROWN M R W; LAM K; COSTERON J W
CORPORATE SOURCE: ASTON UNIV., BIRMINGHAM, U.K.
SOURCE: 87TH ANNUAL MEETING OF THE AMERICAN SOCIETY FOR MICROBIOLOGY, ATLANTA, GEORGIA, USA, MARCH 1-6, 1987. ABSTR ANNU MEET AM SOC MICROBIOL, (1987) 87 (0), 88. CODEN: ASMACK. ISSN: 0094-8519.
DOCUMENT TYPE: Conference
FILE SEGMENT: BR; OLD
LANGUAGE: English

L8 ANSWER 57 OF 67 MEDLINE DUPLICATE 45
ACCESSION NUMBER: 86139917 MEDLINE
DOCUMENT NUMBER: 86139917 PubMed ID: 2419313
TITLE: Phosphate-starvation-induced outer membrane proteins of members of the families Enterobacteriaceae and Pseudomonodaceae: demonstration of immunological cross-reactivity with an antiserum specific for porin protein P of Pseudomonas aeruginosa.
AUTHOR: Poole K; Hancock R E
SOURCE: JOURNAL OF BACTERIOLOGY, (1986 Mar) 165 (3) 987-93. Journal code: HH3; 2985120R. ISSN: 0021-9193.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198604
ENTRY DATE: Entered STN: 19900321
Last Updated on STN: 19900321
Entered Medline: 19860409

AB Bacteria from members of the families Enterobacteriaceae and Pseudomonadaceae were grown under phosphate-deficient (0.1 to 0.2 mM Pi) conditions and examined for the production of novel membrane proteins. Of the 17 strains examined, 12 expressed a phosphate-starvation-induced **outer membrane protein** which was heat modifiable in that after solubilization in sodium dodecyl sulfate at low temperature the

protein ran on gels as a diffuse band of higher apparent molecular weight, presumably an oligomer form, which shifted to an apparent monomer form after solubilization at high temperature. These proteins fell into two classes based on their monomer molecular weights and the detergent conditions required to release the proteins from the peptidoglycan. The first class, expressed by species of the Pseudomonas fluorescens branch of the family Pseudomonadaceae, was similar to the phosphate-starvation-inducible, channel-forming protein P of Pseudomonas **aeruginosa**. The second class resembled the major enterobacterial porin proteins and the phosphate-regulated PhoE protein of Escherichia coli. Using a protein P-trimer-specific polyclonal antiserum, we were able to demonstrate cross-reactivity of the oligomeric forms of both classes of these proteins on Western blots. However, this antiserum did not react with the monomeric forms of any of these proteins, including protein P monomers. With a protein P-monomer-specific antiserum, no reactivity was seen with any of the phosphate-starvation-inducible membrane proteins (in either oligomeric or monomeric form), with the exception of protein P monomers. These results suggest the presence of conserved **antigenic** determinants only in the native, functional proteins.

L8 ANSWER 58 OF 67 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1987:27678 BIOSIS
DOCUMENT NUMBER: BA83:17612
TITLE: THE CHARACTERIZATION OF CROSS-REACTING PROTEIN ANTIGEN IN GRAM-NEGATIVE BACILLI.
AUTHOR(S): YAMAGUCHI H; TAGUCHI H; ISHIYAMA N; KANAMORI M; OGATA S
CORPORATE SOURCE: DEPARTMENT OF MICROBIOLOGY, KYORIN UNIVERSITY SCHOOL OF MEDICINE, MITAKA, TOKYO, 181, JAPAN.
SOURCE: JPN J BACTERIOL, (1986) 41 (4), 701-708.
CODEN: NSKZAM. ISSN: 0021-4930.
FILE SEGMENT: BA; OLD
LANGUAGE: Japanese
AB Distribution of cross-reacting protein **antigen** (CRPA) among 11 bacterial species was examined by immunoelectrophoresis. CRPA was detected in the sonicates of Shigella sonnei, Proteus mirabilis, Salmonella enteritidis, Klebsiella pneumoniae, Serratia marcescens, Escherichia coli, Yersinia enterocolitica, Pseudomonas **aeruginosa** and Vibrio cholerae but not in those of Neisseria gonorrhoeae or Staphylococcus aureus. A major protein with a molecular weight of 60 kilodaltons was found to be shared by the above nine species by SDS-PAGE and immunoblotting. CRPAs of V. cholerae and Y. enterocolitica were partially purified by a combination of starch gel electrophoresis and gel filtration. The molecular weights of both CRPAs were estimated at about 500 kilodaltons by gel filtration. The 60 kilodalton protein was found also in both CRPAs by SDS-PAGE and immunoblotting, therefore, it is a major **antigenic** component of CRPAs of the above nine gram-negative rods. On the other hand, the major protein was not found in the outer membrane preparation obtained from V. cholerae. The present study suggests that CRPA is distinct from such previously reported common **antigens** as the **outer membrane protein** of V. cholerae and Kunin's **antigen** of enteric bacteria in the immunological and physico-chemical properties.

L8 ANSWER 59 OF 67 MEDLINE DUPLICATE 46
ACCESSION NUMBER: 87007104 MEDLINE
DOCUMENT NUMBER: 87007104 PubMed ID: 3093385
TITLE: Polyclonal and monoclonal antibody therapy for experimental Pseudomonas aeruginosa pneumonia.
AUTHOR: Pennington J E; Small G J; Lostrom M E; Pier G B
CONTRACT NUMBER: AI 22534 (NIAID)
AI 22535 (NIAID)
SOURCE: INFECTION AND IMMUNITY, (1986 Oct) 54 (1) 239-44.
Journal code: GO7; 0246127. ISSN: 0019-9567.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198611
ENTRY DATE: Entered STN: 19900302
Last Updated on STN: 19970203
Entered Medline: 19861107

AB A human immunoglobulin G preparation, enriched in antibodies to lipopolysaccharide (LPS) Pseudomonas **aeruginosa** **antigens** (PA-IGIV) and murine monoclonal antibodies (MAb) to P. **aeruginosa** Fisher immunotype-1 (IT-1) LPS **antigen** and **outer membrane** **protein** F (porin), were evaluated for therapeutic efficacy in a guinea pig model of P. **aeruginosa** pneumonia. The concentration of antibodies to IT-1 LPS was 7.6 micrograms/ml in PA-IGIV and 478 micrograms/ml in the IT-1 MAb preparation. No antibody to IT-1 was detected in MAb to porin. For study, animals were infected by intratracheal instillation of IT-1 P. **aeruginosa** and then treated 2 h later with intravenous infusions of PA-IGIV, IT-1 MAb, or porin MAb. Control groups received intravenous albumin, and routinely died from pneumonia. Both PA-IGIV (500 mg/kg) and IT-1 MAb (greater than or equal to 2.5 mg/kg) treatment resulted in increased survival (P less than 0.01 to 0.001), and also improved intrapulmonary killing of bacteria. Porin MAb failed to protect from fatal pneumonia. IT-1 MAb treatment produced more survivals than did PA-IGIV treatment but only at dosages of MAb resulting in serum antibody concentrations greater than those achieved with PA-IGIV. PA-IGIV and IT-1 MAb demonstrated in vitro and in vivo (posttreatment guinea pig serum) opsonophagocytic activity for the IT-1 challenge strain. However, the polyclonal preparation required complement, whereas the MAb did not. We conclude that passive immunization with polyclonal hyperimmune P. **aeruginosa** globulin or with MAb to LPS **antigens** may be useful in the treatment of acute P. **aeruginosa** pneumonia. The relative efficacies of such preparations may be limited, however, by their type-specific LPS antibody concentrations.

L8 ANSWER 60 OF 67 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1986:233869 BIOSIS
DOCUMENT NUMBER: BR30:116365
TITLE: SERUM AND LOCAL IMMUNE RESPONSE TO **OUTER MEMBRANE PROTEIN ANTIGENS** OF PSEUDOMONAS-**AERUGINOSA** ISOLATED WITHOUT SUBCULTURE FROM HUMAN BURN WOUNDS.
AUTHOR(S): WARD K H; ANWAR H; BROWN M R W; WALE R J; GOWAR J
CORPORATE SOURCE: MICROBIOL. RES. GROUP, DEP. PHARM. SCI., ASTON UNIV.,

ASTON TRIANGLE, BIRMINGHAM B4 7ET, UK.
SOURCE: 86TH ANNUAL MEETING OF THE AMERICAN SOCIETY FOR MICROBIOLOGY, WASHINGTON, D.C., USA, MAR. 23-28, 1986. ABSTR ANNU MEET AM SOC MICROBIOL, (1986) 86 (0), 90.
CODEN: ASMACK. ISSN: 0094-8519.
DOCUMENT TYPE: Conference
FILE SEGMENT: BR; OLD
LANGUAGE: English

L8 ANSWER 61 OF 67 MEDLINE
ACCESSION NUMBER: 86073677 MEDLINE
DOCUMENT NUMBER: 86073677 PubMed ID: 2416201
TITLE: Monoclonal antibodies against bacterial outer membrane antigens.
AUTHOR: Hancock R E; Mutharia L M
SOURCE: ADVANCES IN EXPERIMENTAL MEDICINE AND BIOLOGY, (1985) 185 215-22.
Journal code: 2LU; 0121103. ISSN: 0065-2598.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198601
ENTRY DATE: Entered STN: 19900321
Last Updated on STN: 19900321
Entered Medline: 19860109

AB Monoclonal antibodies have proved to be highly specific tools for defining the **antigenic** epitopes of Pseudomonas **aeruginosa** outer membrane macromolecules. In this article we have highlighted the use of monoclonal antibodies in the study of lipopolysaccharide heterogeneity and in particular have demonstrated that single monoclonal antibodies can recognize epitopes on lipid A which are conserved in all Gram negative bacteria tested. Monoclonal antibodies against P. **aeruginosa outer membrane proteins** have been used to demonstrate the strong conservation of specific **antigenic** sites in all P. **aeruginosa** strains tested. In the case of one monoclonal antibody, specific for outer membrane lipoprotein H2, the **antigenic** site recognized by the antibody was also found to be conserved in all group 1 Pseudomonads. The implications of these monoclonal antibodies to bacterial taxonomy is discussed. Monoclonal antibodies against two separate conserved surface epitopes on **outer membrane protein** F were isolated and differentiated according to their reactions with 2 mercaptoethanol-reduced protein F and with proteolytic and cyanogen bromide peptide fragments of protein F. One of these protein F-specific monoclonal antibodies has been demonstrated to have immunotherapeutic potential.

L8 ANSWER 62 OF 67 EMBASE
ACCESSION NUMBER: 84235881 EMBASE
DOCUMENT NUMBER: 1984235881
TITLE: Outer membrane antigens of mucoid Pseudomonas aeruginosa isolated directly from the sputum of a cystic fibrosis patient.
AUTHOR: Anwar H.; Brown M.R.W.; Day A.; Weller P.H.
CORPORATE SOURCE: Microbiology Research Group, Department of Pharmacy,

University of Aston in Birmingham, Birmingham B16 8ET, United Kingdom
SOURCE: FEMS Microbiology Letters, (1984) 24/2-3 (235-239).
CODEN: FMLED7
COUNTRY: Netherlands
DOCUMENT TYPE: Journal
FILE SEGMENT: 004 Microbiology
015 Chest Diseases, Thoracic Surgery and Tuberculosis
007 Pediatrics and Pediatric Surgery
022 Human Genetics
LANGUAGE: English
AB The **antigenicity** of the outer membrane components of mucoid Pseudomonas **aeruginosa** directly isolated from the sputum of a cystic fibrosis patient and those of the same isolate cultivated under iron-depleted conditions in the presence of sub-inhibitory concentrations of piperacillin and/or tobramycin was investigated by immunoblotting using the patient's own serum. The results indicated that iron-regulated membrane proteins as well as other major **outer membrane proteins** were **antigenic** and recognised by the patient's serum. The antibiotics used profoundly influenced the surface **antigen** pattern.

L8 ANSWER 63 OF 67 MEDLINE DUPLICATE 47
ACCESSION NUMBER: 84006949 MEDLINE
DOCUMENT NUMBER: 84006949 PubMed ID: 6413410
TITLE: Pseudomonas aeruginosa isolates from patients with cystic fibrosis: a class of serum-sensitive, nontypable strains deficient in lipopolysaccharide O side chains.
AUTHOR: Hancock R E; Mutharia L M; Chan L; Darveau R P; Speert D P; Pier G B
CONTRACT NUMBER: AI 18465 (NIAID)
SOURCE: INFECTION AND IMMUNITY, (1983 Oct) 42 (1) 170-7.
Journal code: GO7; 0246127. ISSN: 0019-9567.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198311
ENTRY DATE: Entered STN: 19900319
Last Updated on STN: 19970203
Entered Medline: 19831123
AB Twenty-six Pseudomonas **aeruginosa** strains from patients with cystic fibrosis were typed by the Fisher immunotyping scheme. Only 6 strains were agglutinated by a single typing serum, whereas 15 strains were agglutinated with more than one serum and 5 were not agglutinated by any serum. Neither the polyagglutinable nor the nonagglutinable strains were typable by hemagglutination inhibition or immunodiffusion, suggesting that these polyagglutinable strains did not express multiple serotype **antigens**, but were instead being agglutinated by antibody to nonserotype determinants. Four typable isolates were resistant to pooled normal human serum, whereas the 12 polyagglutinable and nonagglutinable isolates studied were very sensitive to normal human serum. The outer membranes of 16 strains were isolated and characterized. The data suggested, in general, strong conservation of **outer membrane**

protein patterns. Lipopolysaccharides (LPS) were purified by a new technique which allowed isolation of both rough and smooth LPS in high yields. Three of four typable, serum-resistant strains examined had amounts of smooth, O-**antigen**-containing LPS equivalent to our laboratory wild type, P. **aeruginosa** PAO1 strain H103. In contrast, 10 of 12 polyagglutinable or nonagglutinable, serum-sensitive strains had very little or no smooth, O-**antigen**-containing LPS, and the other two contained less smooth LPS than our wild-type strain H103. In agreement with this data, five independent, rough, LPS O-**antigen**-deficient mutants of strain H103 were nontypable and serum sensitive. We suggest that the LPS defects described here represent a significant new property of many P. **aeruginosa** strains associated with cystic fibrosis.

L8 ANSWER 64 OF 67 MEDLINE DUPLICATE 48
ACCESSION NUMBER: 84006999 MEDLINE
DOCUMENT NUMBER: 84006999 PubMed ID: 6194119
TITLE: Immunogenicity of Pseudomonas aeruginosa outer membrane antigens examined by crossed immunoelectrophoresis.
AUTHOR: Lam J S; Mutharia L M; Hancock R E; Hoiby N; Lam K; Baek L; Costerton J W
SOURCE: INFECTION AND IMMUNITY, (1983 Oct) 42 (1) 88-98. Journal code: GO7; 0246127. ISSN: 0019-9567.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198311
ENTRY DATE: Entered STN: 19900319
Last Updated on STN: 19900319
Entered Medline: 19831123

AB By crossed immunoelectrophoresis 36 different anode-migrating **antigens** were demonstrated in sonicated **antigen** preparations of Pseudomonas **aeruginosa**. We numbered these **antigens** to establish a reference precipitin pattern. **Antigen** no. 31 was identified as the lipopolysaccharide (LPS) **antigen**, because it was found to be responsible for the O-group specificity and because it reacted with anti-LPS monoclonal antibodies and with Limulus amoebocyte lysate. Purified **outer membrane proteins** F (porin), H2, and I used as **antigens** formed precipitins with the reference antibodies, thus establishing their **antigenicity**. LPS that copurified with protein F and slightly contaminated protein H2 was detectable as an extra precipitin (**antigen** no. 31). The use of monoclonal antibodies specific for smooth LPS and rough LPS revealed different **antigenic** determinants in the LPS molecule and suggested that **antigen** no. 5 could be the core region of the LPS which is equivalent to the rough LPS. Antibodies against these outer membrane **antigens** were detected in patients with chronic P. **aeruginosa** pneumonia and in patients with acute P. **aeruginosa** bacteremia. Antibodies with the same specificity were also found in rats chronically infected with P. **aeruginosa** 7 days postinfection. This demonstrates the surface accessibility and **antigenic** reactivity of outer membrane **antigens**.

L8 ANSWER 65 OF 67 MEDLINE DUPLICATE 49
ACCESSION NUMBER: 83058257 MEDLINE
DOCUMENT NUMBER: 83058257 PubMed ID: 6183370
TITLE: Outer membrane proteins of Pseudomonas aeruginosa serotype strains.
AUTHOR: Mutharia L M; Nicas T I; Hancock R E
SOURCE: JOURNAL OF INFECTIOUS DISEASES, (1982 Dec) 146 (6) 770-9.
Journal code: IH3; 0413675. ISSN: 0022-1899.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Abridged Index Medicus Journals; Priority Journals
ENTRY MONTH: 198301
ENTRY DATE: Entered STN: 19900317
Last Updated on STN: 19900317
Entered Medline: 19830127

AB The basis of differentiation of Pseudomonas **aeruginosa** into the 17 serotypes of the International **Antigenic** Typing Scheme is differences in an outer membrane glycolipid, lipopolysaccharide (LPS). This observation, together with the high toxicity and pyrogenicity of LPS, has led to the search for alternative "common" **antigens** for use as vaccines. The relation between the major **outer membrane proteins** of serotype strains was studied in three ways. By demonstrating conservation of **outer membrane protein** receptors for bacteriophages, a high similarity of **outer membrane protein** patterns on sodium dodecyl sulfate-polyacrylamide gel electrophoresis (SDS-PAGE) gels, and **antigenic** cross-reactivity of major **outer membrane proteins**, it was shown that the major **outer membrane proteins** were closely related. Radioiodinated antibodies to **outer membrane proteins** interacted with **outer membrane proteins** after SDS-PAGE separation and electrophoretic blotting of the separated **outer membrane proteins** into nitrocellulose paper. This demonstrated that major **outer membrane proteins** F, H2, and I were **antigenically** related in all serotype strains.

L8 ANSWER 66 OF 67 MEDLINE DUPLICATE 50
ACCESSION NUMBER: 82006469 MEDLINE
DOCUMENT NUMBER: 82006469 PubMed ID: 6792080
TITLE: Antibodies to cell envelope proteins of Pseudomonas aeruginosa in cystic fibrosis patients.
AUTHOR: Fernandes P B; Kim C; Cundy K R; Haung N N
SOURCE: INFECTION AND IMMUNITY, (1981 Aug) 33 (2) 527-32.
Journal code: GO7; 0246127. ISSN: 0019-9567.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198111
ENTRY DATE: Entered STN: 19900316
Last Updated on STN: 19900316
Entered Medline: 19811118

AB Many vaccines containing somatic and secreted **antigens** of

Pseudomonas **aeruginosa** have been reported. The vaccines containing lipopolysaccharide have been found to provide type-specific protection, but the endotoxin content of these vaccines does not make it feasible to use them in patients who are already debilitated. **Outer membrane proteins** could be effective as vaccines, as they can be purified free of lipopolysaccharide, and also because they are common to all serotypes of P. **aeruginosa**. To be effective as a vaccine, such proteins must be immunogenic and accessible from the outside of the intact bacterial cell. In this study, we showed that systemic antibodies were produced frequently to two cell envelope proteins with masses of 58,500 and 37,500 daltons and occasionally to 34,000-dalton protein of P. **aeruginosa** in cystic fibrosis patients with chronic lung infections. In rabbits immunized with whole, fixed cells of P. **aeruginosa**, antibodies were also produced against the 58,500-dalton proteins. Thus, the 58,500-dalton cell envelope protein of P. **aeruginosa** was the only immunogenic protein that was accessible to the immune system when whole, fixed cells were used for immunization. These serum antibodies did not protect the cystic fibrosis patients against further lung infection with P. **aeruginosa**.

L8 ANSWER 67 OF 67 MEDLINE

ACCESSION NUMBER:	80008032 MEDLINE
DOCUMENT NUMBER:	80008032 PubMed ID: 479830
TITLE:	Antigenic cross-reactivity of major outer membrane proteins in enterobacteriaceae species.
AUTHOR:	Hofstra H; Dankert J
SOURCE:	JOURNAL OF GENERAL MICROBIOLOGY, (1979 Apr) 111 (2) 293-302. Journal code: I87; 0375371. ISSN: 0022-1287.
PUB. COUNTRY:	ENGLAND: United Kingdom Journal; Article; (JOURNAL ARTICLE)
LANGUAGE:	English
FILE SEGMENT:	Priority Journals
ENTRY MONTH:	197911
ENTRY DATE:	Entered STN: 19900315 Last Updated on STN: 19900315 Entered Medline: 19791121

AB The protein constituents in the outer membrane (OM) of several serotypes of Escherichia coli and some other Enterobacteriaceae cross-reacted **antigenically**. Solubilized OM preparations of these bacteria were applied in interfacial precipitin tests to antisera elicited in rabbits against whole bacterial cells, absorbed with their appropriate lipopolysaccharide before testing. The resulting immunecomplexes were analysed on polyacrylamide gels. Protein profiles of the immunoprecipitates showed a considerable **antigenic** cross-reactivity of **outer membrane proteins** between most E. coli serotypes. Cross-reactivity, though substantially lower, was also found with OM from three other Enterobacteriaceae species, but was not detectable with Pseudomonas **aeruginosa** OM. When OM preparations were solubilized at room temperature, the peptidoglycan-bound proteins in the molecular weight range 37,000 to 41,000 predominated in the protein profiles of the immunecomplexes. In profiles of immunecomplexes obtained with boiled OM preparations, a heat-modifiable protein (mol. wt 33,000) predominated. The major OM

proteins of the Gram-negative bacterium may therefore play a role as common surface **antigens** of the family of Enterobacteriaceae.

(FILE 'CAPLUS, MEDLINE, BIOSIS, EMBASE, WPIDS, JICST-EPLUS, JAPIO, PHIC, PHIN, TOXLIT, TOXCENTER' ENTERED AT 09:59:37 ON 01 MAR 2002)

L9	639	S	CRIPPS A?/AU
L10	1501	S	CLANCY R?/AU
L11	241	S	DUNKLEY M?/AU
L12	139	S	KYD J?/AU
L13	8	S	L9 AND L10 AND L11 AND L12
L14	433	S	L9 AND (L10 OR L11 OR L12)
L15	90	S	L10 AND (L11 OR L12)
L16	18	S	L11 AND L12
L17	1979	S	L9 OR L10 OR L11 OR L12
L18	8	S	(L14 OR L15 OR L17) AND L4
L19	26	S	L13 OR L16 OR L18
L20	10		DUP REM L19 (16 DUPLICATES REMOVED)

- Author(s)

L20 ANSWER 1 OF 10 TOXLIT

ACCESSION NUMBER: 2001:28842 TOXLIT
DOCUMENT NUMBER: CA-135-029894M
TITLE: Novel Pseudomonas aeruginosa protein sequences and their uses as antigen/immunogen/vaccine, in detection/diagnosis, and screening anti-microbial targets.
AUTHOR: **Cripps AW; Kyd JM;** Thomas LD
SOURCE: (2001). PCT Int. Appl. PATENT NO. 0140473 06/07/2001 (Provalis UK Limited). CODEN: PIXXD2.
PUB. COUNTRY: UNITED KINGDOM
DOCUMENT TYPE: Patent
FILE SEGMENT: CA
LANGUAGE: English
OTHER SOURCE: CA 135:29894
ENTRY MONTH: 200107

AB The present inventors have employed protein purifn. methods to isolate homogeneous prepns. of both **outer membrane proteins** (**OMPs**) and cytosolic proteins. Using a method of Zwittergent extn. with modifications to liq. column chromatog. and gel electrophoresis steps, several proteins have been purified, identified and assessed for their vaccine potential. The proteins were denoted by their mol. mass and their identity confirmed by amino-terminal sequencing. The inventors have isolated and identified proteins from a prepn. of P.**aeruginosa**. These proteins are designated Pa13, Pa20 (ACP), Pa 40 (amidase), Pa45 and Pa80. Pa20 was ascribed as ACP because it had homol. with a protein from Pseudomonas syringa and P. **aeruginosa**. Pa40 had homol. with a known P. **aeruginosa** aliph. amidase. The proteins designated Pa13, Pa45 and Pa80 were not found following this search. The invention further relates to the uses of antigenic proteins derived from Pseudomonas **aeruginosa** in the treatment, prophylaxis and diagnosis of P.**aeruginosa** infection.

L20 ANSWER 2 OF 10 CAPLUS COPYRIGHT 2002 ACS DUPLICATE 1

ACCESSION NUMBER: 2000:16744 CAPLUS
DOCUMENT NUMBER: 132:150389

TITLE: A P5 peptide that is homologous to peptide 10 of **OprF** from Pseudomonas **aeruginosa** enhances clearance of non-typeable Haemophilus influenzae from acutely infected rat lung in the absence of detectable peptide-specific antibody

AUTHOR(S): Webb, Dianne C.; **Cripps, Allan W.**
CORPORATE SOURCE: The Gadi Research Center, Faculty of Applied Science and Design, University of Canberra, and The Membrane Biochemistry Group, Division of Biochemistry and Molecular Biology, John Curtin School of Medical Research, Australian National University, Canberra City, 2601, Australia

SOURCE: Infect. Immun. (2000), 68(1), 377-381
CODEN: INFIBR; ISSN: 0019-9567
PUBLISHER: American Society for Microbiology
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Non-typeable H. influenzae (NTHi) is an opportunistic pathogen assocd. with otitis media and the exacerbation of chronic bronchitis. This study reports the vaccine potential of 3 peptides representing conserved regions of the NTHi P5 outer membrane protein which have been fused to a promiscuous measles virus F protein T-cell epitope (MVF). The peptides correspond to a region in surface loop 1 (MVF/L1A), the central region of loop 4 (MVF/L4), and a C-terminal region homologous to peptide 10 of **OprF** from P. **aeruginosa** (MVF/H3). Immunization of rats with MVF/H3 was the most efficacious in reducing the no. of viable NTHi in both the broncho-alveolar lavage fluid (74%) and lung homogenates (70%), compared to control rats. Importantly, despite increased rates of clearance, immunization with MVF/H3 elicited poor antibody responses, suggesting that cell-mediated rather than humoral responses play an important role in the enhanced clearance of NTHi in this model.

REFERENCE COUNT: 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 3 OF 10 CAPLUS COPYRIGHT 2002 ACS DUPLICATE 2

ACCESSION NUMBER: 2000:526208 CAPLUS
DOCUMENT NUMBER: 134:264778

TITLE: Catalase immunization from Pseudomonas aeruginosa enhances bacterial clearance in the rat lung

AUTHOR(S): Thomas, L. D.; **Dunkley, M. L.**; Moore, R.; Reynolds, S.; Bastin, D. A.; **Kyd, J. M.**; Cripps, A. W.
CORPORATE SOURCE: Gadi Res. Cent., Div. Sci. Design, Univ. Canberra, Canberra, Australia

SOURCE: Vaccine (2000), 19(2-3), 348-357
CODEN: VACCDE; ISSN: 0264-410X
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Pseudomonas aeruginosa is a common cause of infection in immunocompromised patients and is the major contributor to morbidity in individuals with cystic fibrosis (CF). The antibiotic resistance shown by this pathogen and morbidity in patients with chronic infection has encouraged investigations into the development of a

vaccine. This study reports the purifn. of a 60 kDa protein, isolated from a mucoid strain of P. aeruginosa, identified by amino acid sequence anal. as the catalase protein (KatA). A rat model of acute P. aeruginosa respiratory infection was used to investigate the immunogenicity of KatA and det. the potential of mucosal immunization with KatA to protect against infection. Immunization regimens compared a single intra-Peyer's patch (IPP) immunization with an IPP primary inoculation followed by an intratracheal boost to the lungs. Mucosal immunization with KatA resulted in significant pulmonary clearance of both homologous ($p<0.001$) and heterologous ($p<0.05$) strains of P. aeruginosa. Both immunization regimens enhanced bacterial clearance, increased the rate of recruitment of phagocytes to the bronchoalveoli and induced KatA-specific antibody. However, the regimen that included a boost induced a more effective immune response that also resulted in better clearance of P. aeruginosa from the lungs. Mucosal immunization induced KatA- specific antibodies in the serum and the bronchoalveolar lavage, and KatA-specific lymphocyte proliferation in vitro in cells isolated from the mesenteric lymph nodes of immunized rats. The data presented suggests that KatA has the potential to afford a protective immune response against pulmonary infection by P. aeruginosa.

REFERENCE COUNT: 44 THERE ARE 44 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 4 OF 10 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1999:398204 BIOSIS
DOCUMENT NUMBER: PREV199900398204
TITLE: The Pseudomonas aeruginosa catalase is a protective antigen.
AUTHOR(S): Thomas, L. (1); **Dunkley, M.**; Bastin, D. (1); **Kyd, J. (1)**; Cripps, A. (1)
CORPORATE SOURCE: (1) Gadi Research Centre, University of Canberra, Canberra Australia
SOURCE: Immunology Letters, (June 15, 1999) Vol. 69, No. 1, pp. 174.
Meeting Info.: 10th International Congress of Mucosal Imunology Amsterdam, Netherlands June 27-July 1, 1999
ISSN: 0165-2478.
DOCUMENT TYPE: Conference
LANGUAGE: English

L20 ANSWER 5 OF 10 CAPLUS COPYRIGHT 2002 ACS DUPLICATE 3
ACCESSION NUMBER: 1998:527345 CAPLUS
DOCUMENT NUMBER: 129:160619
TITLE: Pseudomonas aeruginosa antigen
INVENTOR(S): **Cripps, Allan William; Kyd, Jannelle; Dunkley, Margaret; Clancy, Robert Llewellyn**
PATENT ASSIGNEE(S): Auspharm International Limited, Australia; Chapman, Paul, William
SOURCE: PCT Int. Appl., 23 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9832769	A1	19980730	WO 1998-GB217	19980126
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
ZA 9800587	A	19990723	ZA 1998-587	19980123
AU 9857717	A1	19980818	AU 1998-57717	19980126
EP 980389	A1	20000223	EP 1998-901378	19980126
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 2001511125	T2	20010807	JP 1998-531741	19980126
PRIORITY APPLN. INFO.:			GB 1997-1489 A	19970124
			WO 1998-GB217 W	19980126

AB A novel antigen from P. aeruginosa is provided. The use of the antigen in detecting/diagnosing P. aeruginosa as well as its use in eliciting an immune response are also provided.

L20 ANSWER 6 OF 10 CAPLUS COPYRIGHT 2002 ACS DUPLICATE 4

ACCESSION NUMBER: 1997:358726 CAPLUS
DOCUMENT NUMBER: 127:107649
TITLE: Vaccine strategies against Pseudomonas aeruginosa infection in the lung
AUTHOR(S): **Cripps, A. W.; Dunkley, M. L. ; Clancy, R. L.; Kyd, J.**
CORPORATE SOURCE: Fac. Applied Science, Univ. Canberra, Belconnen, 2616, Australia
SOURCE: Behring Inst. Mitt. (1997), 98(New Approaches to Bacterial Vaccine Development), 262-268
CODEN: BHIMA2; ISSN: 0301-0457
PUBLISHER: Medizinische Verlagsgesellschaft mbH
DOCUMENT TYPE: Journal; General Review
LANGUAGE: English

AB A review with 48 refs. is given on the concept of mucosal immunization against respiratory infection with P. aeruginosa. Initial studies in an acute animal model clearly demonstrated that mucosal immunization with a killed whole bacterial cell prepn. could induce protective immune responses in the lung. Subsequent studies showed that the protective immune mechanisms were dependent on antigen specific CD4+ T cells, the activation of alveolar macrophages, the recruitment and activation of polymorphs, predominantly neutrophils, the controlled secretion of tumor necrosis factor .alpha., interleukin-1, and interferon .gamma., and the presence of antibody. A pre-clin. human trial of an oral whole killed cell prepn. was completed with no adverse side effects. A limited open trial in patients with bronchiectasis was also completed. The results demonstrate that after oral vaccination, specific lymphocyte responses were obsd. to P. aeruginosa.

L20 ANSWER 7 OF 10 CAPLUS COPYRIGHT 2002 ACS DUPLICATE 5

ACCESSION NUMBER: 1995:718946 CAPLUS

DOCUMENT NUMBER: 123:141662
TITLE: Enhanced respiratory clearance of nontypeable Haemophilus influenzae following mucosal immunization with P6 in a rat model
AUTHOR(S): **Kyd, Jennelle M.; Dunkley, Margaret L.**; Cripps, Allan W.
CORPORATE SOURCE: Discip. Pathol., Univ. Newcastle, New South Wales, 2308, Australia
SOURCE: Infect. Immun. (1995), 63(8), 2931-40
CODEN: INFIBR; ISSN: 0019-9567
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Nontypeable Haemophilus influenzae (NTHi) is a common cause of infection of the respiratory tract in children and adults. The search for an effective vaccine against this pathogen has focused on components of the outer membrane, and peptidoglycan-assocd. lipoprotein P6 is among the proposed candidates. This study investigated the immunogenicity of P6 in a rat respiratory model. P6 was purified from two strains of NTHi, one capsule-deficient strain and an H. influenzae type b strain, and assessed for clearance of both homologous and heterologous bacterial strains following mucosal immunization. A protective immune response was detd. by enhancement of pulmonary clearance of live bacteria and an increased rate of recruitment of phagocytic cells to the lungs. This was most effective when Peyer's patch immunization was accompanied by an intratracheal (IT) boost. However, the rate of bacterial clearance varied between strains, which suggests some differences in anti-P6 immunol. defenses recognizing the expression of the highly conserved P6 lipoprotein on the bacterial surface in some strains. P6-specific antibodies in both serum and bronchoalveolar lavage fluid were cross-reactive and did not differ significantly in strain specificity, demonstrating that difference in clearance was unlikely due to differences in P6-specific antibody levels. Serum homologous and heterologous P6-antibody was bactericidal against NTHi even when enhanced clearance had not been obsd. Peyer's patch immunization induced P6-specific CD4+ T-helper cell proliferation in lymphocytes isolated from the mesenteric lymph nodes. An IT boost increased the level of P6-specific antibodies in serum and bronchoalveolar lavage fluid, and P6-specific mesenteric node lymphocyte proliferation. Cells from rats immunized with P6 demonstrated proliferation following stimulation with P6 from nonhomologous strains; however, there was some variation in proliferative responses to P6 from different strains in lymphocytes isolated from animals immunized with killed bacteria. The increase in P6-specific antibodies and T-helper cell responses following an IT boost correlated with an increased rate of recruitment of phagocytic cells and enhanced bacterial clearance of both homologous and heterologous bacteria in the lungs. The data suggests that P6 has the potential to afford protection against pulmonary infection by NTHi following the induction of effective antigen-specific B- and T-cell responses in mucosal tissues.

L20 ANSWER 8 OF 10 CAPLUS COPYRIGHT 2002 ACS DUPLICATE 6
ACCESSION NUMBER: 1995:969979 CAPLUS
DOCUMENT NUMBER: 124:84182
TITLE: Immunity to Pseudomonas **aeruginosa** induced by **OprF** following intestinal immunization

AUTHOR(S): **Cripps, Allan W.; Dunkley, Margaret L.**; Taylor, Diana C.; Cousins, Stephen; **Clancy, Robert L.**
CORPORATE SOURCE: Hunter Area Pathology Service, Newcastle, 2310, Australia
SOURCE: Adv. Exp. Med. Biol. (1995), Volume Date 1995, 371B, 761-3
CODEN: AEMBAP; ISSN: 0065-2598
DOCUMENT TYPE: Journal
LANGUAGE: English
AB In this study an acute respiratory infection model has been utilized to det. the vaccine efficacy of outer membrane protein F (OprF) when administered by the intestinal route.

L20 ANSWER 9 OF 10 MEDLINE DUPLICATE 7
ACCESSION NUMBER: 96167032 MEDLINE
DOCUMENT NUMBER: 96167032 PubMed ID: 8595919
TITLE: Pulmonary immunity to Pseudomonas aeruginosa.
AUTHOR: **Cripps A W; Dunkley M L; Clancy R L; Kyd J**
CORPORATE SOURCE: Faculty of Applied Science, University of Canberra, Australia.
SOURCE: IMMUNOLOGY AND CELL BIOLOGY, (1995 Oct) 73 (5) 418-24. Ref: 84
Journal code: GH8; 8706300. ISSN: 0818-9641.
PUB. COUNTRY: Australia
Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
(REVIEW, TUTORIAL)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199604
ENTRY DATE: Entered STN: 19960424
Last Updated on STN: 19970203
Entered Medline: 19960416
AB Pseudomonas aeruginosa, an opportunistic bacterial pathogen, is a major course of morbidity and mortality in subjects with compromised respiratory function despite the significant advances in therapeutic practices. The bacteria produces an armoury of products which modify its infective niche to ensure bacterial survival. The role of antibody in protection against pulmonary infection remains poorly defined. Protection appears to be associated with opsonizing antibody whilst some other antibody responses may be deleterious and promote further lung damage. Cell mediated responses are clearly important in protection against infection. This review proposes a vaccine strategy aimed at enhancing specific T cell responses in the lung which, though T cell-derived cytokines, drive the recruitment of neutrophils to the lung and the subsequent activation of these cells results in the clearance of bacteria from the lung.

L20 ANSWER 10 OF 10 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1994:139127 BIOSIS
DOCUMENT NUMBER: PREV199497152127
TITLE: Variation in protection following immunization with P6 to nontypable Haemophilus influenzae challenge.
AUTHOR(S): **Kyd, Jennelle; Dunkley, Margaret;** Clancy, Robert; Crips, Allan
CORPORATE SOURCE: Fac. Med., Univ. Newcastle, Callaghan, NSW 2308

Australia
SOURCE: Journal of Leukocyte Biology, (1993) Vol. 0, No. SUPPL., pp. 112.
Meeting Info.: International Congress on the Regulation of Leukocyte Production and Immune Function held at the Joint Meeting of the Australasian Society for Immunology and Society for Leukocyte Biology Sydney, New South Wales, Australia December 1-5, 1993
ISSN: 0741-5400.
DOCUMENT TYPE: Conference
LANGUAGE: English

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S1   16534   OUTER(W)MEMBRAN?(W)PROTEIN? ? OR OMP? ? OR MOMP? ? OR OPR?
             ?
S2   1716   S1 AND AERUGINOS?
S3   968   L2 AND ANTIGEN?
S4   1116   S1(S)AERUGINOS?
S5   105   S4(S)ANTIGEN?
S6   88   RD (unique items)
S7   849   S1(10N)AERUGINOS?
S8   46   S7(10N)ANTIGEN?
S9   41   RD (unique items)
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 9/3,AB/1   (Item 1 from file: 35)
DIALOG(R)File 35:Dissertation Abs Online
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01490876 AADAAINN06084
THE DEVELOPMENT OF THE PSEUDOMONAS *AERUGINOSA"** *OUTER"** *MEMBRANE"**
*PROTEIN"** *OPRF"** AS A PRESENTATION VECTOR FOR FOREIGN *ANTIGENIC"**
DETERMINANTS
  Author: WONG, REBECCA SUK YI
  Degree: PH.D.
  Year: 1995
  Corporate Source/Institution: THE UNIVERSITY OF BRITISH COLUMBIA
       (CANADA) (2500)
  Source: VOLUME 57/03-B OF DISSERTATION ABSTRACTS INTERNATIONAL.
       PAGE 1705. 198 PAGES
  ISBN: 0-612-06084-5

    A variety of systems have been developed to improve the presentation

of foreign antigenic determinants ('epitopes') by inserting them in the context of carrier proteins. The goals of this study were to develop the Pseudomonas aeruginosa outer membrane protein OprF as a carrier for foreign epitopes and to study the effect of the mode of presentation on the antigenicity of the presented epitope. The model epitope used in this study was the 4-amino acid repeating epitope (NANP) of the circumsporozoite protein of the malaria parasite, Plasmodium falciparum. Linker-insertion mutagenesis was carried out to create 11 "permissive" sites which allowed the insertion of 4 extra amino acids. Two series of OprF::malarial epitope hybrid proteins, the positional hybrids and the multiple-repeat hybrids, were constructed by inserting oligonucleotides encoding the epitope into the linker-insertion sites of oprF. The effects of the insertion position and the length of the epitope on its antigenicity were studied by ELISA using outer membranes and by whole cell dot blot analysis. It was shown that the antigenicity of the epitope varied when inserted at different positions of OprF, while it increased with the length of the epitope at two of the three insertion positions studied. These data were employed to revise the membrane topology model of OprF and have improved our understanding of the epitopes recognized by the OprF-specific monoclonal antibodies. Generalizations about the influence of surrounding amino acids on the antigenicity of the inserted epitope are proposed. A targeted study of immunogenicity showed that a 19-amino acid malarial epitope was significantly more immunogenic than a 7-amino acid epitope when inserted at an N-terminal insertion site of OprF. A parallel immunogenicity study of two versions of glutathione S-transferase (GST)::malarial epitope fusion proteins demonstrated that neither an 11- nor a 19-amino acid epitope fused to the C-terminus of GST was immunogenic. This study demonstrated for the first time that OprF can be used as a carrier to generate and detect anti-epitope antibodies in immunized animals and in immunoassays respectively.

9/3,AB/2 (Item 2 from file: 35)
DIALOG(R)File 35:Dissertation Abs Online

01429150 AADAAI9529722
USE OF SYNTHETIC PEPTIDES TO IDENTIFY SURFACE-EXPOSED, LINEAR B-CELL EPITOPES WITHIN OUTER MEMBRANE PROTEIN F OF PSEUDOMONAS AERUGINOSA
Author: HUGHES, EILEEN MARIE
Degree: PH.D.
Year: 1995
Corporate Source/Institution: LOUISIANA STATE UNIVERSITY MEDICAL CENTER AT SHREVEPORT (0786)
Source: VOLUME 56/04-B OF DISSERTATION ABSTRACTS INTERNATIONAL. PAGE 1821. 150 PAGES

Synthetic peptide 13 to 15 amino acids in length were synthesized initially for ten potential surface-exposed, *antigenic"** regions of Pseudomonas *aeruginosa"** *outer"** *membrane"** *protein"** F selected by computer-assisted analysis. Based on the results obtained with those ten peptide, nine additional peptide were synthesized and analyzed. Each of the peptides, conjugated to keyhole limpet hemocyanin, was used to immunize groups of mice, with antisera subsequently collected from each group of the mice. The presence of IgG antibodies capable of reacting with the peptide was detected by enzyme-linked immunosorbent assay (ELISA) using each of the peptides as the ELISA antigens. Each of the peptide antisera was screened for the presence of IgG antibodies that could bind to the surface of intact

cells of strains representing the seven heterologous Fisher-Devlin immunotypes of P. aeruginosa by use of an ELISA with whole cells of the various strains as the ELISA antigens. Flow cytometry was also employed using cells of Fisher-Devlin immunotype 2. The functional ability of the peptide-directed antisera was tested by whole-blood phagocytosis assays using both human and murine polymorphonuclear leukocytes. Peptide #10 (residues 305-318) elicited whole-cell reactive antibodies at high titers; peptide #9 (residues 261-274) and peptide #18 (residues 282-295) elicited whole-cell-reactive antibodies at intermediate titers. Based on our findings and on our understanding of the arrangement of other porin proteins within the outer membrane, we proposed a model for the arrangement of protein F within the outer membrane of P. aeruginosa.

Active immunization with peptide #9 and #10 conferred protection in the rat model of chronic P. aeruginosa infection. In an effort to elicit a maximal antibody response, other combinations of systemic and mucosal routes of immunization were explored. Active immunization with peptide #9 and #10 conferred protection in the murine acute pneumonia model, whereas #18 did not confer protection. These results indicate that peptide #10 (NATAEGRAINRRVE) and #9 (TDAYNQKLSERRAN) appear to have potential for further development as protective immunogens.

9/3,AB/3 (Item 3 from file: 35)
DIALOG(R)File 35:Dissertation Abs Online

01320790 AADC311351
INFLUENCE OF IRON ON BACTERIAL INFECTIONS IN LEUKAEMIA
Author: YATES, JACQUELINE MARIE
Degree: PH.D.
Year: 1992
Corporate Source/Institution: UNIVERSITY OF ASTON IN BIRMINGHAM (UNITED KINGDOM) (0734)
Source: VOLUME 54/04-C OF DISSERTATION ABSTRACTS INTERNATIONAL. PAGE 1172.

The influence of iron metabolism, both on the invading bacterial pathogen and in the host is widespread and often appears to be crucial in determining the outcome of an infection. This study involved the investigation of leukaemia, a clinical disease where abnormal availability of iron may play a part in predisposing patients to bacterial infection. The iron status throughout a Gram-negative septicaemia and in 20 random, newly diagnosed leukaemic patients was assessed. The results revealed that the majority of the patients exhibited high serum iron levels and serum transferrin saturation often at 100%, with an inability to reduce the latter to within normal values during an infection episode. The antibody response to P. *aeruginosa"**, E. coli and K. pneumoniae *outer"** *membrane"** *protein"** (*OMP"**) *antigens"** were investigated by immunoblotting with sequential serum samples during infection in the leukaemic host. Antibodies to all the major OMPs were observed, although recognition of iron-regulated membrane proteins (IRMPs) was, in many cases, weak. Results from the enzyme-linked immunosorbent assay indicated that in all patients antibody titre in response to infection was poor.

Sub-MICs of mitomycin C significantly altered the surface characteristics of P. aeruginosa. The silver-stained SDS-PAGE gels of proteinase K digested whole cell lysates of strains PAO1, 6750, M7 and PAJ indicated that core LPS was affected in the presence of mitomycin C. In contrast, the rough strain AK1012 showed no observable differences. Results

obtained using quantitative gas-liquid chromatographic analysis showed the amount of LPS fatty acids to be unaffected, however, the KDO and carbohydrate content in strains PAO1, 6750 and M7 under Fe+ and Fe$-$ growth conditions were decreased by up to 4-fold in the presence of mitomycin C, indicating perturbed expression of LPS. The cell surface became significantly more hydrophobic in the P. aeruginosa strain, except AK1012 which was comparatively unaffected.

The induction of protein G (OprG) in P. aeruginosa was found to be a sensitive indicator of media iron. The data indicated that expression of OprG can be modulated by growth rate/phase, availability of iron and by the presence of ciprofloxacin in the growth medium.

9/3,AB/4 (Item 4 from file: 35)
DIALOG(R)File 35:Dissertation Abs Online

1044913 AAD0564642
CLONING AND CHARACTERIZATION OF THE OPRF GENE FOR PROTEIN F FROM PSEUDOMONAS AERUGINOSA
Author: WOODRUFF, WENDY ANNE
Degree: PH.D.
Year: 1988
Corporate Source/Institution: THE UNIVERSITY OF BRITISH COLUMBIA (CANADA) (2500)
Source: VOLUME 49/12-B OF DISSERTATION ABSTRACTS INTERNATIONAL. PAGE 5158.

The oprF gene encoding porin protein F from Pseudomonas aeruginosa was cloned onto a cosmid vector into Escherichia coli. Protein F was expressed in large amounts in E. coli and retained its heat- and reduction-modifiable and immunological characteristics. The cloned oprF gene product was purified from E. coli and characterized with respect to pore-forming ability in black lipid bilayers. Small channels, with an average single channel conductance of approximately 0.4 nS, were observed. A similar small channel size was observed for native protein F. The oprF sequences were used as a DNA-DNA hybridization probe with chromosomal DNA from the 17 IATS (International *Antigen"** Typing Scheme) strains of P. *aeruginosa"**, 52 clinical isolates and the non-*aeruginosa"** Pseudomonads. Conservation of *oprF"** sequences was observed among all the P. *aeruginosa"** strains and to a lesser extent among the non-aeruginosa strains of the P. fluorescens rRNA homology group.

Insertion mutations in the oprF gene were created in vivo by Tn1 mutagenesis of the cloned gene in E. coli and in vitro by insertion of the streptomycin-encoding Ω fragment into the cloned gene, followed by transfer of the mutated protein F gene back into P. aeruginosa and homologous recombination with the chromosome. The oprF mutants were characterized by gel electrophoresis and immunoblotting, and it was shown that the mutants had lost protein F. The P. aeruginosa oprF mutants were characterized with respect to growth rates, antibiotic permeability and cell surface hydrophobicity. The results of these studies indicated that major alterations in the cell surface had occurred and that the cells were unable to grow in a non-defined liquid medium without added electrolytes. Marginal differences were observed in MICs (minimum inhibitory concentrations) of hydrophilic antibiotics for the oprF mutants compared with their protein F-sufficient parents.

The putative roles of protein F in antibiotic permeability and general outer membrane permeability are discussed. Evidence for extensive

homologies between protein F, the OmpA protein of E. coli and PIII of Neisseria gonorrhoeae are presented. A role for protein F in prophylactic anti-Pseudomonas therapy, as a target for vaccine development, is proposed.

9/3,AB/5 (Item 1 from file: 65)
DIALOG(R)File 65:Inside Conferences

01819053 INSIDE CONFERENCE ITEM ID: CN018764711
A Hybrid *Outer"** *Membrane"** *Protein"** *Antigen"** for Vaccination Against Pseudomonas *aeruginosa"**
Gabelsberger, J.; Knapp, B.; Bauersachs, S.; Lenz, U.
CONFERENCE: New approaches to bacterial vaccine development-Symposium
BEHRING INSTITUTE MITTEILUNGEN, 1997; VOL 98 P: 302-314
The Institute, 1997
ISSN: 0301-0457
LANGUAGE: English DOCUMENT TYPE: Conference Papers
CONFERENCE EDITOR(S): Von Specht, B. U.
CONFERENCE SPONSOR: Behring Institute Research Communications
CONFERENCE LOCATION: Munich, Germany
CONFERENCE DATE: May 1996 (199605) (199605)

9/3,AB/6 (Item 1 from file: 77)
DIALOG(R)File 77:Conference Papers Index

02853157
Supplier Accession Number: 92003157 V20N01
Analysis of immunoglobulin G subclass responses in cystic fibrosis by immunoblot using whole Pseudomonas aeruginosa antigens and purified outer membrane proteins
Likavcanova, E.; Lagace, J.
Univ. Montreal, Montreal, Que., Canada
91st General Meeting of the American Society for Microbiology 9120375
Dallas, TX (USA) 5-9 May 1991
American Society for Microbiology
ASM, 1325 Massachusetts Avenue NW, Washington, DC 20005, USA, Poster Paper No. E83

9/3,AB/7 (Item 2 from file: 77)
DIALOG(R)File 77:Conference Papers Index

Supplier Accession Number: 87015732 V15N3
Surface antigens of in vivo-grown Pseudomonas aeruginosa : Lung fluid and serum antibody response to outer membrane proteins and lipopolysaccharide in a rat model of chronic lung infection
Cochrane, D.M.G.; Anwar, H.; Brown, M.R.W.; Lam, K.; Costerton, J.W.
Aston Univ., Birmingham, UK
American Society for Microbiology 87th Annual Meeting 8710293
Atlanta, GA (USA) 1-6 Mar 1987
American Society for Microbiology
American Society for Microbiology, Publication Sales, 1913 I Street, N.W., Washington, DC 20006 (USA). Telephone: (202) 833-9680, Price: $20.00 (abstracts); $3.00 (program) Abstract No. D98

9/3,AB/8 (Item 3 from file: 77)
DIALOG(R)File 77:Conference Papers Index

Supplier Accession Number: 86045626 V14N8
Serum and local immune response to outer membrane protein antigens of Pseudomonas aeruginosa isolated without subculture from human burn wounds
Ward, K.J.; Anwar, H.; Brown, M.R.W.; Wale, R.J.; Gowar, J.
Microbiol. Res. Group, Dep. of Pharmaceut. Sci., Aston Univ., Burns Unit, Accident Hosp., Birmingham, UK
American Society for Microbiology 86th Annual Meeting 8610146 Washington, DC (USA) 23-28 Mar 1986
American Society for Microbiology (ASM)
American Society for Microbiology, 1913 I Street, N.W., Washington, DC 20006 (USA), Abstract No. D148

9/3,AB/9 (Item 1 from file: 144)
DIALOG(R)File 144:Pascal

13848646 PASCAL No.: 99-0025172
Identification of a 25-aminoacid sequence from the major African swine fever virus structural protein VP72 recognised by porcine cytotoxic T lymphocytes using a lipoprotein based expression system
LEITAO A; MALUR A; CORNELIS P; MARTINS C L V
Laboratorio de Doencas Infecciosas, CHSA, Faculdade de Medicina Veterinaria, Rua Gomes Freire, 1199 Lisboa, Portugal; Centro de Veterinaria e Zootecnia, CIISA, Instituto de Investigacao Cientifica Tropical, Rua Gomes Freire, 1150 Lisbon, Portugal; Department Immunology-Parasitology-Ultrastructure Flanders Institute of Biotechnology and Vrije Universiteit Brussel, Paardenstraat 65, 1640 St. Genesius Rode, Belgium
Journal: Journal of virological methods, 1998, 75 (1) 113-119
Language: English
Identification of African swine fever virus (ASFV) proteins recognised by cytotoxic T lymphocytes (CTL) from swine surviving ASFV/NH/P68 infection was assessed using expression vectors based on the Pseudomonas *aeruginosa"** outer membrane lipoprotein I gene (*oprI"**). Viral *antigens"** expressed as fusion lipoproteins were shown to be taken efficiently by porcine blood-derived macrophages incubated with outer membrane protein preparations from transformed E. coli. To assess recognition by CTL the fusion lipoprotein-treated macrophages were used as targets in SUP 5 SUP 1 Cr release microcytotoxicity assays. Using this approach it was shown that the aminoacid sequence HKPHQSKPILTDENDTQRTCSHTNP from the major structural ASFV protein (VP72), encoded by a recombinant clone (pVUB72) is presented by macrophages, which are lysed under restriction of SLA class I antigens. Overall, the results demonstrate that the oprI based vectors are valuable tools to study ASFV-specific CTL activity.

9/3,AB/10 (Item 2 from file: 144)
DIALOG(R)File 144:Pascal

12641748 PASCAL No.: 96-0335486
The effect of the length of a malarial epitope on its *antigenicity"** and immunogenicity in an epitope presentation system using the Pseudomonas *aeruginosa"** *outer"** *membrane"** *protein"** *OprF"** as the carrier
WONG R S Y; HANCOCK R E W
Department of Microbiology and Immunology, #300-6174 University Boulevard, University of British Columbia, Vancouver, B.C. V6T 1Z3, Canada
Journal: FEMS microbiology letters, 1996, 140 (2-3) 209-214
Language: English
This study showed that the antigenicity of a malarial epitope increased with the length of the epitope when inserted at positions aa SUP 2 SUP 6 (amino acid position 26) and aa SUP 1 SUP 9 SUP 6 , but not at aa SUP 2 SUP 1 SUP 3 , of the Pseudomonas aeruginosa major outer membrane protein OprF (326 amino acids). Immunization studies showed that a 19-aa epitope was significantly more immunogenic than a 7-aa epitope when inserted at aa SUP 2 SUP 6 of OprF, while neither an 11- nor a 19-aa epitope fused to the C-terminus of glutathione S-transferase was immunogenic.

9/3,AB/11 (Item 3 from file: 144)
DIALOG(R)File 144:Pascal

12313740 PASCAL No.: 95-0551208
Use of synthetic peptides to identify surface-exposed, linear B-cell epitopes within outer membrane protein F of Pseudomonas aeruginosa
GILLELAND H E JR; HUGHES E E; GILLELAND L B; MATTHEWS-GREER J M; STACZEK J
Louisiana State univ. medical cent., school medicine Shreveport, dep. microbiology immunology, Shreveport LA 71130-3932, USA
Journal: Current microbiology, 1995, 31 (5) 279-286
Language: English
In a previous study (Hughes EE, Gilleland LB, Gilleland HE Jr. (1992) Infect Immun 60 :3497-3503), ten synthetic peptides were used to test for surface-exposed *antigenic"** regions located throughout the length of *outer"** *membrane"** *protein"** F of Pseudomonas *aeruginosa"**. An additional nine peptides of 11-21 amino acid residues in length were synthesized. Antisera collected from mice immunized with each of the 19 synthetic peptides conjugated to keyhole limpet hemocyanin were used to determine which of the peptides had elicited antibodies capable of reacting with the surface of whole cells of the various heterologous Fisher-Devlin immunotypes of P. aeruginosa. Cell surface reactivity was measured by an enzyme-linked immunosorbent assay (ELISA) with whole cells of the various immunotypes as the ELISA antigens and by opsonophagocytic uptake assays with the various peptide-directed antisera, immunotype 2 P. aeruginosa cells, and polymorphonuclear leukocytes of human and murine origin. Three peptides located in the carboxy-terminal portion of protein F elicited antibodies with the greatest cell-surface reactivity. Peptide 9 (TDAYNQKLSERRAN), peptide 10 (NATAEGRAINRRVE), and peptide 18 (NEYGVEGGRVNAVG) appear to have sufficient potential for further development as vaccine candidates for immunoprophylaxis against infections caused by P. aeruginosa. A topological model for the arrangement of protein F within the outer membrane of P. aeruginosa is presented.

9/3,AB/12 (Item 4 from file: 144)

DIALOG(R)File 144:Pascal

10477416 PASCAL No.: 92-0680910
Protection of immunosuppressed mice against infection with Pseudomonas aeruginosa by recombinant P. aeruginosa lipoprotein I and lipoprotein I-specific monoclonal antibodies
FINKE M; MUTH G; REICHHELM T; THOMA M; DUCHENE M; HUNGERER K D; DOMDEY H; VON SPECHT B U
Chirurgische Universitaetsklin., chirurgische Forschung, Freiburg im Breisgau 7800, Federal Republic of Germany
Journal: Infection and immunity, 1991, 59 (4) 1251-1254
Language: English

9/3,AB/13 (Item 1 from file: 440)
DIALOG(R)File 440:Current Contents Search(R)

13500522 GENUINE ARTICLE#: 521XD NUMBER OF REFERENCES: 43
TITLE: LcrQ and SycH function together at the Ysc type III secretion system in Yersinia pestis to impose a hierarchy of secretion
AUTHOR(S): Wulff-Strobel CR; Williams AW; Straley SC (REPRINT)
AUTHOR(S) E-MAIL: scstra01@pop.uky.edu
CORPORATE SOURCE: Univ Kentucky, Dept Microbiol & Immunol, /Lexington//KY/40536 (REPRINT); Univ Kentucky, Dept Microbiol & Immunol, /Lexington//KY/40536
PUBLICATION TYPE: JOURNAL
PUBLICATION: MOLECULAR MICROBIOLOGY, 2002, V43, N2 (JAN), P411-423
PUBLISHER: BLACKWELL SCIENCE LTD, P O BOX 88, OSNEY MEAD, OXFORD OX2 0NE, OXON, ENGLAND
ISSN: 0950-382X
LANGUAGE: English DOCUMENT TYPE: ARTICLE
ABSTRACT: LcrQ is a regulatory protein unique to Yersinia. Previous study in Yersinia pseudotuberculosis and Yersinia enterocolitica prompted the model in which LcrQ negatively regulates the expression of a set of virulence proteins called Yops, and its secretion upon activation of the Yop secretion (Ysc) type III secretion system permits full induction of Yops expression. In this study, we tested the hypothesis that LcrQ's effects on Yops expression might be indirect. Excess LcrQ was found to exert an inhibitory effect specifically at the level of Yops secretion, independent of production, and a normal inner Ysc gate protein LcrG was required for this activity. However, overexpression of LcrQ did not prevent YopH secretion, suggesting that LcrQ's effects at the Ysc discriminate among the Yops. We tested this idea by determining the effects of deletion or overexpression of LcrQ, YopH and their common chaperone SycH on early Yop secretion through the Ysc. Together, our findings indicated that LcrQ is not a negative regulator directly, but it acts in partnership with SycH at the Ysc gate to control the entry of a set of Ysc secretion substrates. A hierarchy of YopH secretion before YopE appears to be imposed by SycH in conjunction with both LcrQ and YopH. LcrQ and SycH in addition influenced the deployment of LcrV, a component of the Yops delivery mechanism. Accordingly, LcrQ appears to be a central player in determining the substrate specificity of the Ysc.

9/3,AB/14 (Item 2 from file: 440)

12618984 GENUINE ARTICLE#: 423CT NUMBER OF REFERENCES: 55
TITLE: Protection against Pseudomonas aeruginosa chronic lung infection in mice by genetic immunization against outer membrane protein F (OprF) of P-aeruginosa
AUTHOR(S): Price BM; Galloway DR (REPRINT); Baker NR; Gilleland LB; Staczek J; Gilleland HE
AUTHOR(S) E-MAIL: galloway.3@osu.edu
CORPORATE SOURCE: Ohio State Univ, Dept Microbiol, 484 W 12Th Ave/Columbus//OH/43210 (REPRINT); Ohio State Univ, Dept Microbiol, /Columbus//OH/43210; Louisiana State Univ, Dept Microbiol & Immunol, /Shreveport//LA/71130
PUBLICATION TYPE: JOURNAL
PUBLICATION: INFECTION AND IMMUNITY, 2001, V69, N5 (MAY), P3510-3515
PUBLISHER: AMER SOC MICROBIOLOGY, 1752 N ST NW, WASHINGTON, DC 20036-2904 USA
ISSN: 0019-9567
LANGUAGE: English DOCUMENT TYPE: ARTICLE
ABSTRACT: The Pseudomonas *aeruginosa"** major constitutive outer membrane porin protein *OprF"**, which has previously been shown to be a protective *antigen"**, was targeted as a DNA vaccine candidate. The oprF gene was cloned into plasmid vector pVR1020, and the plasmid vaccines were delivered to mice by biolistic (gene gun) intradermal inoculation. Antibody titers in antisera from immunized mice were determined by enzyme linked immunosorbent assay, and the elicited antibodies were shown to he specifically reactive to OprF by immunoblotting, The immunoglobulin G (IgG) immune response was predominantly of the IgG1 isotype, Sera from DNA vaccine-immunized mice had significantly greater opsonic activity in opsonophagocytic assays than did sera from control mice, Following the initial immunization and two consecutive boosts, each at 2-week intervals, protection was demonstrated in a mouse model of chronic pulmonary infection by P, aeruginosa. Eight days postchallenge, both lungs mere removed and examined, A significant reduction in the presence of severe macroscopic lesions, as well as in the number of bacteria present in the lungs, was seen. Based on these findings, genetic immunization with oprF has potential for development as a vaccine to protect humans against infection by P, aeruginosa.

9/3,AB/15 (Item 3 from file: 440)

12069859 GENUINE ARTICLE#: 363RH NUMBER OF REFERENCES: 38
TITLE: Salmonella enteritidis temperature-sensitive mutants protect mice against challenge with virulent Salmonella strains of different serotypes
AUTHOR(S): Gherardi MM; Gomez MI; Garcia VE; Sordelli DO; Cerquetti MC (REPRINT)
AUTHOR(S) E-MAIL: cerquetti@cotelcam.com.ar
CORPORATE SOURCE: CONICET, Dept Microbiol Aplicada, Serrano 669/RA-1414 Buenos Aires/DF/Argentina/ (REPRINT); CONICET, Dept Microbiol Aplicada, /RA-1414 Buenos Aires/DF/Argentina/; UBA, Dept Microbiol Parasitol & Immunol, /Buenos Aires/DF/Argentina/
PUBLICATION TYPE: JOURNAL

PUBLICATION: FEMS IMMUNOLOGY AND MEDICAL MICROBIOLOGY, 2000, V29, N2 (OCT) , P81-88
PUBLISHER: ELSEVIER SCIENCE BV, PO BOX 211, 1000 AE AMSTERDAM, NETHERLANDS
ISSN: 0928-8244
LANGUAGE: English DOCUMENT TYPE: ARTICLE
ABSTRACT: The protection conferred by temperature-sensitive mutants of Salmonella enteritidis against different wild-type Salmonella serotypes was investigated. Oral immunization with the single temperature-sensitive mutant E/1/3 or with a temperature-sensitive thymine-requiring double mutant (E/1/3T) conferred: (i) significant protection against the homologous wild-type Salmonella strains; (ii) significant cross-protection toward high challenge doses of S. typhimurium. Significant antibody levels against homologous lipopolysaccharide and against homologous and heterologous protein antigens were detected in sera from immunized mice. Moreover, a wide range of protein antigens from different Salmonella O serotypes were recognized by sera from immunized animals. Besides, primed lymphocytes from E/1/3 immunized mice recognized Salmonella antigens from different serotypes. Taken together, these results indicate that temperature-sensitive mutants of S. enteritidis are good candidates for the construction of live vaccines against Salmonella. (C) 2000 Federation of European Microbiological Societies. Published by Elsevier Science B.V. All rights reserved.

11546978 GENUINE ARTICLE#: 304RZ NUMBER OF REFERENCES: 21
TITLE: Functional expression in Escherichia coli and membrane topology of porin HopE, a member of a large family of conserved proteins in Helicobacter pylori
AUTHOR(S): Bina J; Bains M; Hancock REW (REPRINT)
AUTHOR(S) E-MAIL: bob@cmdr.ubc.ca
CORPORATE SOURCE: Univ British Columbia, Dept Microbiol & Immunol, 2222 Hlth Sci Mall/Vancouver/BC V6T 1Z3/Canada/ (REPRINT); Univ British Columbia, Dept Microbiol & Immunol, /Vancouver/BC V6T 1Z3/Canada/
PUBLICATION TYPE: JOURNAL
PUBLICATION: JOURNAL OF BACTERIOLOGY, 2000, V182, N9 (MAY), P2370-2375
PUBLISHER: AMER SOC MICROBIOLOGY, 1325 MASSACHUSETTS AVENUE, NW, WASHINGTON, DC 20005-4171 USA
ISSN: 0021-9193
LANGUAGE: English DOCUMENT TYPE: ARTICLE
ABSTRACT: HopE is one of the smallest members of a family of 31 outer membrane proteins in Helicobacter pylori and has been shown to function as a porin. In this study it was cloned into Escherichia coli where it was expressed in the outer membrane, as confirmed by indirect immunofluorescence using HopE-specific antibodies. HopE purified from E. coli reconstituted channels in planar bilayer membranes that were the same size as those formed by HopE purified from H. pylori. A model of the membrane topology of HopE was constructed and indicated that this protein formed a beta-barrel with 16 transmembrane amphipathic beta-strands. The accuracy of this model was tested by Linker insertion mutagenesis, assuming that, like other porins, amino acid insertions were not tolerated in the transmembrane beta-strands but were tolerated in the adjoining loop regions. Generally, the results obtained with a series of 12 insertions of the sequence RSKDV and two substitutions

were consistent with the topological model. The preponderance of amino acids that were conserved in the extended family of HopE paralogs were predicted to be within the membrane and comprised 45% of all residues in the membrane.

9/3,AB/17 (Item 5 from file: 440)
DIALOG(R)File 440:Current Contents Search(R)

08594092 GENUINE ARTICLE#: XH496 NUMBER OF REFERENCES: 93
TITLE: Transformation competence and type-4 pilus biogenesis in Neisseria gonorrhoeae - A review
AUTHOR(S): Fussenegger M; Rudel T; Barten R; Ryll R; Meyer TF (REPRINT)
CORPORATE SOURCE: MAX PLANCK INST BIOL,INFEKT BIOL ABT, SPEMANNSTR 34/D-72076 TUBINGEN//GERMANY/ (REPRINT); MAX PLANCK INST BIOL,INFEKT BIOL ABT/D-72076 TUBINGEN//GERMANY/; ETH HONGGERBERG,SWISS FED INST TECHNOL, INST BIOTECHNOL/CH-8093 ZURICH//SWITZERLAND/; MAX PLANCK INST INFEKT BIOL,MOL BIOL ABT/D-10117 BERLIN//GERMANY/
PUBLICATION TYPE: JOURNAL
PUBLICATION: GENE, 1997, V192, N1 (JUN 11), P125-134
PUBLISHER: ELSEVIER SCIENCE BV, PO BOX 211, 1000 AE AMSTERDAM, NETHERLANDS
ISSN: 0378-1119
LANGUAGE: English DOCUMENT TYPE: ARTICLE
ABSTRACT: In Neisseria gonorrhoea (Ngo), the processes of type-4 pilus biogenesis and DNA transformation are functionally linked and play a pivotal role in the life style of this strictly human pathogen. The assembly of pili from its main subunit pilin (PilE) is a prerequisite for gonococcal infection since it allows the first contact to epithelial cells in conjunction with the pilus tip-associated PilC protein. While the components of the pilus and its assembly machinery are either directly or indirectly involved is the transport of DNA across the outer membrane, other factors unrelated to pilus biogenesis appear to facilitate further DNA transfer across the murein layer (ComL, Tpc) and the inner membrane (ComA) before the transforming DNA is rescued in the recipient bacterial chromosome in a RecA-dependent manner. Interestingly, PilE is essential for the first step of transformation, i.e., DNA uptake, and is itself also subject to transformation-mediated phase and antigenic variation. This short-term adaptive mechanism allows Ngo to cope with changing micro-environments in the host as well as to escape the immune response during the course of infection. Given the fact that Ngo has no ecological niche other than man, horizontal genetic exchange is essential for a successful co-evolution with the host. Horizontal exchange gives rise to heterogeneous populations harboring clones which better withstand selective forces within the host. Such extended horizontal exchange is reflected by a high genome plasticity, the existence of mosaic genes and a low linkage disequilibrium of genetic loci within the neisserial population. This led to the concept that rather than regarding individual Neisseria species as independent traits, they comprise a collective of species interconnected via horizontal exchange and relying on a common gene pool. (C) 1997 Elsevier Science B.V.

9/3,AB/18 (Item 6 from file: 440)
DIALOG(R)File 440:Current Contents Search(R)

06872983 GENUINE ARTICLE#: TD038 NUMBER OF REFERENCES: 27
TITLE: IDENTIFICATION OF *OUTER"** *MEMBRANE"** *PROTEINS"** AS TARGET *ANTIGENS"** OF PSEUDOMONAS *AERUGINOSA"** HOMMA SEROTYPE M
AUTHOR(S): YOKOTA S
CORPORATE SOURCE: SUMITOMO PHARMACEUT CO LTD,RES CTR,DISCOVERY RES LABS 3,KONOHANA KU,1-98 KASUGADE NAKA 3 CHOME/OSAKA 554//JAPAN/ (Reprint)
PUBLICATION: CLINICAL AND DIAGNOSTIC LABORATORY IMMUNOLOGY, 1995, V2, N6 (NOV), P747-752
ISSN: 1071-412X
LANGUAGE: ENGLISH DOCUMENT TYPE: ARTICLE
ABSTRACT: Pseudomonas aeruginosa is routinely serotyped in Japan by using the Homma scheme, The serotypes (O serotypes) are based on the chemical structure of the O-polysaccharide portion of the lipopolysaccharide (LPS). However, the nature of the Homma serotype M antigen has remained obscure because strains classified as serotype M usually have the rough phenotype, I characterized the target antigen of serotype M. The results of Western blotting (immunoblotting) showed that commercially available typing monoclonal antibody (MAb) against serotype M specifically bound to outer membrane protein (Opr) G and that typing rabbit antiserum specific for serotype M mainly contained antibodies against Oprs F and H2. These Oprs were distributed among all P. aeruginosa strains tested, including the serotype standard, serotype M and nontypeable strains, and a series of LPS-core-defective mutants derived from strain PAC1. However, the rough mutants derived from strain PAC1 agglutinated with the anti-serotype M antibodies, whereas the smooth strains did not, LPS preparations from serotype M strains possessed few or no polysaccharide chains. These strains had higher levels of binding activity with anti-serotype M MAb, as well as with anti-lipid A MAb, which specifically bound to the cell surface of the rough-natured gram-negative bacterial strains with high activity, The anti-serotype M antiserum also contained rough-LPS specific antibodies, but the epitope was distributed among only a few strains, The results suggested that the Oprs acted as the serotype M antigen and that LPS did not. In conclusion, the rough strains agglutinated with anti-Opr antibodies and were distinguished as serotype M from the smooth strains of other serotypes, because the antibodies were accessible to the cell surface lacking O polysaccharides. I supposed that Homma serotype M is an index of the rough nature of P. aeruginosa strains rather than one of the O serotypes.

9/3,AB/19 (Item 7 from file: 440)
DIALOG(R)File 440:Current Contents Search(R)

05771068 GENUINE ARTICLE#: PH251 NUMBER OF REFERENCES: 34
TITLE: DEVELOPMENT OF AN INTRAPERITONEAL IMPLANT CHAMBER FOR THE STUDY OF IN VIVO-GROWN PASTEURELLA HAEMOLYTICA IN CATTLE
AUTHOR(S): DAVIES RL; GIBBS HA; MCCLUSKEY J; COOTE JG; FREER JH; PARTON R
CORPORATE SOURCE: UNIV GLASGOW,DEPT MICROBIOL/GLASGOW G12 8QQ//SCOTLAND/ (Reprint); UNIV GLASGOW,DEPT VET MED/GLASGOW G12 8QQ//SCOTLAND/
PUBLICATION: MICROBIAL PATHOGENESIS, 1994, V16, N6 (JUN), P423-433
ISSN: 0882-4010
LANGUAGE: ENGLISH DOCUMENT TYPE: ARTICLE
ABSTRACT: An intraperitoneal implant chamber was developed for the study of the in vivo growth of Pasteurella haemolytica in calves. The chamber had a volume of approximately 100 mi and featured an external sampling port which allowed multiple and sequential sampling of the chamber

contents. A single polycarbonate diffusion membrane with a pore size of 0.22 mu m allowed host peritoneal fluid to diffuse into the chamber and maintained the bacterial population free of white blood cells. Chambers were implanted into the peritoneal cavities of four five-month-old dairy-cross carves, demonstrated to be sere-negative by indirect haemagglutination assay. Three days later, four different P. haemolytica isolates, of serotypes Al or A2, were inoculated into the chambers. In all cases, there was a slow decline in the viable bacterial numbers within the chambers. Western blot analysis of the antibody content of the chamber fluids revealed IgG antibodies to P. haemolytica OMPs in the fluid prior to inoculation and both 9 and 15 days after inoculation. Furthermore, there was no significant change in the IgG antibody content of the chamber fluid, either quantitatively or qualitatively, during the course of the experiment. Analysis of the bactericidal activity of pre-inoculation chamber fluid against the corresponding bacterial isolate suggested that an antibody-dependent complement-mediated process was not responsible for the decline in bacterial numbers. Overall, the chamber design was demonstrated to be extremely effective for in vivo studies of P. haemolytica in calves, allowing easy and regular sampling of the chamber contents and maintaining bacteria free of white blood cells. Although there was a slow decline in bacterial numbers over time, sufficient numbers of cells could be obtained for analysis of cell-surface antigens.

9/3,AB/20 (Item 8 from file: 440)
DIALOG(R)File 440:Current Contents Search(R)

05014934 GENUINE ARTICLE#: MH040 NUMBER OF REFERENCES: 24
TITLE: CONSERVATION OF SURFACE EPITOPES IN PSEUDOMONAS AERUGINOSA OUTER MEMBRANE PORIN PROTEIN OPRF
AUTHOR(S): MARTIN NL; RAWLING EG; WONG RSY; ROSOK M; HANCOCK REW (Reprint)
CORPORATE SOURCE: UNIV BRITISH COLUMBIA,DEPT MICROBIOL/VANCOUVER V6T 1Z3/BC/CANADA/ (Reprint); UNIV BRITISH COLUMBIA,DEPT MICROBIOL/VANCOUVER V6T 1Z3/BC/CANADA/; BRISTOL MYERS SQUIBB,DIV PHARMACEUT RES/SEATTLE//WA/00000
PUBLICATION: FEMS MICROBIOLOGY LETTERS, 1993, V113, N3 (NOV 1), P261-266
ISSN: 0378-1097
LANGUAGE: ENGLISH DOCUMENT TYPE: ARTICLE
ABSTRACT: The outer membrane proteins of several prominent bacterial pathogens demonstrate substantial variation in their surface *antigenic"** epitopes. To determine if this was also true for Pseudomonas *aeruginosa"** *outer"** *membrane"** *protein"** *OprF"**, gene sequencing of a serotype 5 isolate was performed to permit comparison with the published serotype 12 oprF gene sequence. Only 16 nucleotide substitutions in the 1053 nucleotide coding region were observed; none of these changed the amino acid sequence. A panel of 10 monoclonal antibodies (mAbs) reacted with each of 46 P. aeruginosa strains representing all 17 serotype strains, 12 clinical isolates, 15 environmental isolates and 2 laboratory isolates. Between two and eight of these mAbs also reacted with proteins from representatives of the rRNA homology group I of the Pseudomonadaceae. Nine of the ten mAbs recognized surface antigenic epitopes as determined by indirect immunofluorescence techniques and their ability to opsonize P. aeruginosa for phagocytosis. These epitopes were partially masked by lipopolysaccharide side chains as revealed using a side chain-deficient mutant. It is concluded that OprF is a highly conserved protein with

several conserved surface antigenic epitopes.

9/3,AB/21 (Item 9 from file: 440)
DIALOG(R)File 440:Current Contents Search(R)

04530208 GENUINE ARTICLE#: KZ976 NUMBER OF REFERENCES: 19
TITLE: SEROLOGIC TESTS FOR PSEUDOMONAS-AERUGINOSA - CONTRIBUTION TO THE DIFFERENTIATION OF COLONIZATION AND INFECTION IN CYSTIC FIBROSIS PATIENTS
AUTHOR(S): RECULE C; CROIZE J; COPPERE C; HIRTZ P; GOUT JP; LENOC P
CORPORATE SOURCE: CHR UNIV GRENOBLE,BACTERIOL LAB,BP 217X/F-38043GRENOBLE//FRANCE/ (Reprint); CTR HOSP REG UNIV,BIOCHIM LAB A/F-38043 GRENOBLE//FRANCE/; HOP GEN VOIRON/F-38056 VOIRON//FRANCE/
PUBLICATION: PATHOLOGIE BIOLOGIE, 1993, V41, N3 (MAR), P249-254
ISSN: 0369-8114
LANGUAGE: FRENCH DOCUMENT TYPE: ARTICLE
ABSTRACT: Serologic test for Pseudomonas aeruginosa have been found useful for differentiating colonization from infection, especially in chronic disease. A Western blot method was compared with the ELISA used routinely. The Western blot detected serum IgGs against P. *aeruginosa"** *outer"** *membrane"** *proteins"**, whereas the ELISA reacted with IgGs against soluble P. *aeruginosa"** *antigens"**. Among the 103 sera from 58 cystic fibrosis patients studied, all those with ELISA reactivity were positive by Western blot. The antibody response was detected earlier by Western blot than by ELISA, suggesting that the former technique may be useful for the early diagnosis of infection.

9/3,AB/22 (Item 10 from file: 440)
DIALOG(R)File 440:Current Contents Search(R)

04431028 GENUINE ARTICLE#: KU824 NUMBER OF REFERENCES: 46
TITLE: LIPOPOLYSACCHARIDE-INDEPENDENT RADIOIMMUNOPRECIPITATION AND IDENTIFICATION OF STRUCTURAL AND INVIVO INDUCED IMMUNOGENIC SURFACE PROTEINS OF SALMONELLA-TYPHI IN TYPHOID FEVER
AUTHOR(S): ARON L; FAUNDEZ G; GONZALEZ C; ROESSLER E; CABELLO F (Reprint)
CORPORATE SOURCE: NEW YORK MED COLL,DEPT MICROBIOL & IMMUNOL/VALHALLA//NY/10595 (Reprint); NEW YORK MED COLL,DEPT MICROBIOL & IMMUNOL/VALHALLA//NY/10595; UNIV CHILE,SCH MED,DEPT MED/SANTIAGO//CHILE/
PUBLICATION: VACCINE, 1993, V11, N1, P10-17
ISSN: 0264-410X
LANGUAGE: ENGLISH DOCUMENT TYPE: ARTICLE
ABSTRACT: The humoral response to Salmonella typhi is important for protective immunity against typhoid fever, as indicated by the protection obtained with killed cell vaccines and component vaccines (outer membrane proteins, Vi antigen) in animals and human beings. Nonetheless, analysis and interpretation of host humoral immune response to S. typhi surface antigens have been difficult because of the complex structure of the S. typhi envelope and the lack of purified reagents for detection of immune response to individual surface components. Normal and convalescent human sera from typhoid fever patients were absorbed with S. typhi lipopolysaccharide. These sera were used in radioimmunoprecipitation assays of whole S. typhi cells and S. typhi membranes labelled with either I-125 or S-35-methionine.

This strategy has permitted the unequivocal identification of a humoral immune response to structural and in vivo induced outer membrane proteins of S. typhi. In this manner, we have identified the porins, lipoprotein, the iron-starvation-induced proteins, and three proteins of 30, 18.5 and 15 kDa as surface-exposed immunogens of S. typhi in patients with typhoid fever. These studies suggest that further experimental work is needed to characterize the relevance of both anti-S. typhi outer membrane protein and anti-lipopolysaccharide antibodies in recovery from S. typhi infections and protective immunity.

9/3,AB/23 (Item 11 from file: 440)
DIALOG(R)File 440:Current Contents Search(R)

04129815 GENUINE ARTICLE#: JY830 NUMBER OF REFERENCES: 36
TITLE: MODULATION OF SURFACE ANTIGEN EXPRESSION BY KLEBSIELLA-PNEUMONIAE IN RESPONSE TO GROWTH ENVIRONMENT
AUTHOR(S): CAMPRUBI S; SMITH MA; TOMAS JM; WILLIAMS P (Reprint)
CORPORATE SOURCE: UNIV NOTTINGHAM,DEPT PHARMACEUT SCI/NOTTINGHAM NG7 2RD//ENGLAND/ (Reprint); UNIV NOTTINGHAM,DEPT PHARMACEUT SCI/NOTTINGHAM NG7 2RD//ENGLAND/; UNIV BARCELONA,FAC BIOL,DEPT MICROBIOL/BARCELONA 7//SPAIN/
PUBLICATION: MICROBIAL PATHOGENESIS, 1992, V13, N2 (AUG), P145-155
ISSN: 0882-4010
LANGUAGE: ENGLISH DOCUMENT TYPE: ARTICLE

9/3,AB/24 (Item 12 from file: 440)
DIALOG(R)File 440:Current Contents Search(R)

03807265 GENUINE ARTICLE#: JB247 NUMBER OF REFERENCES: 34
TITLE: LEGIONELLA-PNEUMOPHILA LIPOPOLYSACCHARIDE ACTIVATES THE CLASSICAL COMPLEMENT PATHWAY
AUTHOR(S): MINTZ CS; SCHULTZ DR; ARNOLD PI; JOHNSON W
CORPORATE SOURCE: UNIV MIAMI,SCH MED,DEPT MICROBIOL & IMMUNOL/MIAMI//FL/33101 (Reprint); UNIV MIAMI,SCH MED,DEPT MED/MIAMI//FL/33101; UNIV IOWA,DEPT MICROBIOL/IOWA CITY//IA/52242
PUBLICATION: INFECTION AND IMMUNITY, 1992, V60, N7 (JUL), P2769-2776
LANGUAGE: ENGLISH DOCUMENT TYPE: ARTICLE
ABSTRACT: Legionella pneumophila is a gram-negative bacterium capable of entering and growing in alveolar macrophages and monocytes. Complement and complement receptors are important in the uptake of L. pneumophila by human mononuclear phagocytes. The surface molecules of L. pneumophila that activate the complement system are unknown. To identify these factors, we investigated the effects of L. pneumophila lipopolysaccharide (LPS) on the classical and alternative complement pathways of normal human serum by functional hemolytic assays. Although incubation of LPS in normal human serum at 37-degrees-C resulted in the activation of both pathways, complement activation proceeded primarily through the classical pathway. Activation of the classical pathway by LPS was dependent on natural antibodies of the immunoglobulin M class that were present in various quantities in sera from different normal individuals but were absent in an immunoglobulin-deficient serum obtained from an agammaglobulinemic patient. Additional studies using sheep erythrocytes coated with LPS suggested that the antibodies

recognized antigenic sites in the carbohydrate portion of LPS. The ability of LPS to interact with the complement system suggests a role for LPS in the uptake of L. pneumophila by mononuclear phagocytes.

9/3,AB/25 (Item 13 from file: 440)
DIALOG(R)File 440:Current Contents Search(R)

02994782 GENUINE ARTICLE#: FY558 NUMBER OF REFERENCES: 70
TITLE: THE APPLICATION OF 2-DIMENSIONAL POLYACRYLAMIDE GEL ELECTROPHORESIS TO MEDICAL MICROBIOLOGY - MOLECULAR EPIDEMIOLOGY OF VIRUSES AND BACTERIA
AUTHOR(S): CASH P
CORPORATE SOURCE: UNIV ABERDEEN,DEPT MED MICROBIOL,FORESTERHILL/ABERDEEN AB9 2ZD//SCOTLAND/ (Reprint)
PUBLICATION: ELECTROPHORESIS, 1991, V12, N7-8 (JUL-AUG), P592-604
LANGUAGE: ENGLISH DOCUMENT TYPE: ARTICLE
ABSTRACT: A variety of molecular methods can be used to identify protein and nucleic acid markers with which to investigate the epidemiology of viruses and bacteria. This paper reviews the application of two-dimensional polyacrylamide gel electrophoresis (2-D PAGE) for studying microbial molecular epidemiology. A small format 2-D PAGE system is described for locating protein markers in group B coxsackie viruses (CVB) and Haemophilus influenzae isolates. Representative isolates of CVB serotypes 2,4, and 5 were compared by analysing the intracellular proteins present in CVB-infected HEp-2 cells by 2-D PAGE protein gels. Although some of the virus-induced proteins had similar electrophoretic mobilities, the three serotypes could be distinguished from each other on the basis of a major virus-induced protein of molecular weight between 39 000 and 43 000. Protein differences were demonstrated among six serotype 2 CVB (CVB-2) isolates. Four clinical CVB-2 isolates collected over a period of four months had indistinguishable two-dimensional protein profiles. Comparison of the two-dimensional protein profiles of cloned virus stocks prepared from a single clinical CVB isolate demonstrated that it was a heterogeneous virus population. The proteins of nontypable and type-b H. influenzae isolates were compared. Up to 160 proteins, detected by staining with Coomassie Brilliant Blue R, were resolved by 2-D PAGE. Although protein differences between individual bacterial isolates were detected, comparable two-dimensional protein profiles were found for the two groups of H. influenzae isolates. There was no similarity in the two-dimensional protein profiles of H. influenzae and Aeromonas. Potential protein markers were identified that may be useful in long-term studies of H. influenzae epidemiology.

9/3,AB/26 (Item 14 from file: 440)
DIALOG(R)File 440:Current Contents Search(R)

02706384 GENUINE ARTICLE#: FC700 NUMBER OF REFERENCES: 83
TITLE: IRON AND BACTERIAL VIRULENCE - A BRIEF OVERVIEW
AUTHOR(S): GRIFFITHS E
CORPORATE SOURCE: NATL INST BIOL STAND & CONTROLS/POTTERS BAR/HERTS/ENGLAND/ (Reprint)
PUBLICATION: BIOLOGY OF METALS, 1991, V4, N1, P7-13
LANGUAGE: ENGLISH DOCUMENT TYPE: ARTICLE

9/3,AB/27 (Item 15 from file: 440)
DIALOG(R)File 440:Current Contents Search(R)

02662887 GENUINE ARTICLE#: FB458 NUMBER OF REFERENCES: 31
TITLE: DERMAL AND SEROLOGICAL RESPONSE AGAINST PSEUDOMONAS-AERUGINOSA IN SHEEP BRED FOR RESISTANCE AND SUSCEPTIBILITY TO FLEECE-ROT
AUTHOR(S): CHIN JC; WATTS JE
CORPORATE SOURCE: ELIZABETH MACARTHUR AGR INST,PMB 8/CAMDEN/NSW 2570/AUSTRALIA/ (Reprint)
PUBLICATION: AUSTRALIAN VETERINARY JOURNAL, 1991, V68, N1 (JAN), P28-31
LANGUAGE: ENGLISH DOCUMENT TYPE: ARTICLE
ABSTRACT: Genetically select lines of Merino sheep have been bred at Trangie (NSW Agriculture and Fisheries) for resistance (R) or susceptibility (S) to fleece-rot and flystrike. It is believed that fleece characters are primarily responsible for the R or S phenotype. When transferred to the wetter coastal environment of Sydney, R and S sheep with no more than 6 weeks wool cover, continued to show significant differences in the incidence and severity of fleece-rot dermatitis. To test the hypothesis that these sheep might also exhibit differences in their local skin reactions and immune responsiveness, 3 intradermal injections of killed Pseudomonas aeruginosa were administered at monthly intervals. After primary intradermal challenge, R sheep had a higher incidence of skin induration and a stronger inflammatory response (increased induration diameter) than S sheep. Compared to S sheep, R sheep also developed higher levels of circulating antibodies against whole cell *antigen"** and both inner and *outer"** *membrane"** *proteins"** of P. *aeruginosa"**. These responses were maintained in R sheep with each consecutive challenge while S sheep showed a decline in their immune responsiveness. Differences in antibody response against outer membrane proteins were also detected when antigenically naive sheep from each genetic line were sensitised by epicutaneous challenge with P. aeruginosa under experimental wetting conditions. Intradermal challenge of these animals 6 months later with outer membrane proteins, revealed a late maximum (72 h) in the development of induration diameters for R sheep while S animals showed maximal induration diameters by 24 h. However, there was no significant difference in induration response between 24 h and 72 h within each group of sheep. These differences were accompanied by significantly higher antibody titres against outer membrane proteins in R than S sheep. It is concluded that R and S sheep differ in their dermal and immune responsiveness, and that this difference may reside in the way the skin processes or responds to environmental antigens produced by the opportunistic and major fleece-rot predisposing skin bacteria, P. aeruginosa.

9/3,AB/28 (Item 1 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

00392028
Human monoclonal antibody, and its production and use.
Menschlicher monoklonaler Antikorper, seine Herstellung und seine Verwendung.
Anticorps monoclonal humain et sa production et utilisation.

PATENT ASSIGNEE:
SUMITOMO CHEMICAL COMPANY, LIMITED, (214340), Kitahama 4-chome 5-33, Chuo-ku Osaka 541, (JP), (applicant designated states: AT;BE;CH;DE;DK;FR;GB;IT;LI;NL;SE)
SUMITOMO PHARMACEUTICALS COMPANY, LIMITED, (653535), 2-8, Doshomachi 2-chome, Chuo-ku, Osaka-shi Osaka 541, (JP), (applicant designated states: AT;BE;CH;DE;DK;FR;GB;IT;LI;NL;SE)
INVENTOR:
Ochi, Hiroshi, 2-11-8-110, Sonehigashi-machi, Toyonaka, Osaka, (JP)
Ohtsuka, Hiroshi, 16-40-601, Takagihigashi-machi, Nishinomiya, Hyogo, (JP)
Yokota, Shinichi, 2-14-7, Mefu, Takarazuka, Hyogo, (JP)
Noguchi, Hiroshi, 4-4-153, Seiwadainishi, Kawanishi, Hyogo, (JP)
Terashima, Masazumi, 2-1-125, Kuwata-cho, Ibaraki, Osaka, (JP)
Uezumi, Ikuko, 5-1-30, Shuntoku-cho, Higashiosaka, Osaka, (JP)
Irie, Kenji, 2-25-8, Yuyamadai, Kawanishi, Hyogo, (JP)
LEGAL REPRESENTATIVE:
Kolb, Helga, Dr. Dipl.-Chem. et al (49371), Hoffmann, Eitle & Partner Patentanwalte Arabellastrasse 4, D-8000 Munchen 81, (DE)
PATENT (CC, No, Kind, Date): EP 394946 A2 901031 (Basic)
EP 394946 A3 910123
APPLICATION (CC, No, Date): EP 90107717 900424;
PRIORITY (CC, No, Date): JP 89104849 890424
DESIGNATED STATES: AT; BE; CH; DE; DK; FR; GB; IT; LI; NL; SE
INTERNATIONAL PATENT CLASS: C12P-021/08; A61K-039/395; G01N-033/577; C12N-005/12;

ABSTRACT EP 394946 A2
A human monoclonal antibody, which has prophylactic and therapeutic effect to infectious diseases caused by Pseudomonas aeruginosa of serotypes A and H classified under the Japanese Commitee's Classification, and the epitope of which is located at the common structure in the O-antigen of Pseudomonas aeruginosa of serotypes A and H. A hybridoma producing said human monoclonal antibody, and processes for preparing said hybridoma and antibody are also provided.
ABSTRACT WORD COUNT: 72

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	EPABF1	247
SPEC A	(English)	EPABF1	6907
Total word count - document A			7154
Total word count - document B			0
Total word count - documents A + B			7154

9/3,AB/29 (Item 2 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

00386865
Human monoclonal antibody to pseudomonas Aeruginosa, and its production and use.
Menschlicher monoklonaler Antikorper gegen Pseudomonas Aeruginosa, Herstellung und Verwendung.
Anticorps monoclonal humain contre Pseudomonas Aeruginosa, sa production et l'utilisation.

PATENT ASSIGNEE:
SUMITOMO CHEMICAL COMPANY, LIMITED, (214347), 5-33, Kitahama 4-chome Chuo-ku, Osaka, (JP), (applicant designated states: AT;BE;CH;DE;FR;GB;IT;LI;NL;SE)
SUMITOMO PHARMACEUTICALS COMPANY, LIMITED, (653535), 2-8, Doshomachi 2-chome, Chuo-ku, Osaka-shi Osaka 541, (JP), (applicant designated states: AT;BE;CH;DE;FR;GB;IT;LI;NL;SE)
INVENTOR:
Ochi, Hiroshi, 2-11-8-110, Sonehigashi-machi, Toyonaka, Osaka, (JP)
Ohtsuka, Hiroshi, 16-40-601, Takagihigashi-machi, Mishinomiya, Hyogo, (JP)
Yokota, Shinichi, 2-14-7, Mefu, Takarazuka, Hyogo, (JP)
Noguchi, Hiroshi, 4-4-153 Seiwadainishi, Kawanishi, Hyogo, (JP)
Terashima, Masazumi, 2-1-125, Kuwata-cho, Ibaraki, Osaka, (JP)
Kato, Masuhiro, 1-13-1-603, Arima, Miyamae-ku, Kawasaki, Kanagawa, (JP)
LEGAL REPRESENTATIVE:
Kolb, Helga, Dr. Dipl.-Chem. et al (49371), Hoffmann, Eitle & Partner, Patentanwalte, Postfach 81 04 20, D-81904 Munchen, (DE)
PATENT (CC, No, Kind, Date): EP 383090 A1 900822 (Basic)
APPLICATION (CC, No, Date): EP 90101804 900130;
PRIORITY (CC, No, Date): JP 8922245 890130; JP 89271034 891017
DESIGNATED STATES: AT; BE; CH; DE; FR; GB; IT; LI; NL; SE
INTERNATIONAL PATENT CLASS: C12P-021/00; C12N-005/00; A61K-039/40;

ABSTRACT EP 383090 A1
A human monoclonal antibody showing a specific binding property to flagella of Pseudomonas aeruginosa, characterized in that said antibody produces a therapeutic effect on the mouse experimental infection caused by Pseudomonas aeruginosa at a dose of not less than 5 (mu)g/kg of body weight.
ABSTRACT WORD COUNT: 48

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	EPABF1	248
SPEC A	(English)	EPABF1	8423
Total word count - document A			8671
Total word count - document B			0
Total word count - documents A + B			8671

9/3,AB/30 (Item 3 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

00342586
Human monoclonal antibody, hybridoma producing the same and pharmaceutical.
Menschlicher monoklonaler Antikorper, Hybridoma, das ihn herstellt, und pharmazeutisches Mittel.
Anticorps monoclonal humain, hybridome le produisant et produit pharmaceutique.
PATENT ASSIGNEE:
SUMITOMO PHARMACEUTICALS COMPANY, LIMITED, (653533), 2-8, Dosho-machi 2-Chome, Chuo-ku, Osaka-shi Osaka-fu, (JP), (applicant designated states: DE;NL;SE)
INVENTOR:
Yokota, Shinichi, 2-14-7, Mefu, Takarazuka-shi Hyogo-ken, (JP)

Ohtsuka, Hiroshi, 16-40-601, Takagihigashi-machi Nishinomiya-shi, Hyogo-ken, (JP)
Ochi, Hiroshi, 2-11-8-110, Sonehigashi-machi Toyonaka-shi, Osaka-fu, (JP)
Noguchi, Hiroshi, 4-4-153, Seiwadainishi Kawanishi-shi, Hyogo-ken, (JP)
Terashima, Masazumi, 2-29-7, Oike Ibaraki-shi, Osaka-fu, (JP)
Kato, Masuhiro, 2-10-2-235, Sonehigashi-machi Toyonaka-shi, Osaka-fu, (JP)
LEGAL REPRESENTATIVE:
Hansen, Bernd, Dr.rer.nat. et al (4922), Hoffmann, Eitle & Partner Patentanwalte Postfach 81 04 20, D-81904 Munchen, (DE)
PATENT (CC, No, Kind, Date): EP 341684 A2 891115 (Basic)
EP 341684 A3 900117
EP 341684 B1 950118
APPLICATION (CC, No, Date): EP 89108383 890510;
PRIORITY (CC, No, Date): JP 88114473 880510
DESIGNATED STATES: DE; NL; SE
INTERNATIONAL PATENT CLASS: C12P-021/00; A61K-039/40; C12N-015/00;

ABSTRACT EP 341684 A2
A human monoclonal antibody, which has prophylactic and therapeutic effect to infections diseases caused by Pseudomonas aeruginosa, and the epitope of which is located in the outer core moiety of LPS of said microorganism. A hybridoma producing the human monoclonal antibody, and processes for preparing said antibody and hybridoma are also provided.
ABSTRACT WORD COUNT: 56

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	EPBBF2	276
CLAIMS B	(English)	EPBBF2	248
CLAIMS B	(German)	EPBBF2	245
CLAIMS B	(French)	EPBBF2	260
SPEC A	(English)	EPBBF2	7961
SPEC B	(English)	EPBBF2	7952
Total word count - document A			8237
Total word count - document B			8705
Total word count - documents A + B			16942

9/3,AB/31 (Item 4 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

00327638
HUMAN MONOCLONAL ANTIBODY AND DRUG FOR PROPHYLAXIS AND TREATMENT OF INFECTIOUS DISEASES COMPRISING SAME AS EFFECTIVE INGREDIENT.
MENSCHLICHER MONOKLONALER ANTIKORPER UND ARZNEIMITTEL ZUR PROPHYLAXE UND BEHANDLUNG VON INFEKTIOSEN KRANKHEITEN.
ANTICORPS MONOCLONAL HUMAIN ET MEDICAMENT POUR LA PROPHYLAXIE ET LE TRAITEMENT DE MALADIES INFECTIEUSES COMPRENANT LEDIT ANTICORPS EN TANT QU'INGREDIENT EFFICAC
PATENT ASSIGNEE:
MITSUI TOATSU CHEMICALS, Inc., (204170), 2-5 Kasumigaseki 3-chome, Chiyoda-Ku Tokyo 100, (JP), (applicant designated states: CH;DE;FR;GB;IT;LI;NL;SE)
INVENTOR:
FUKUDA, Tamotsu, 2142, Togo, Mobara-shi, Chiba-ken 297, (JP)

ONO, Yasushi, 13-4, Honcho 2-chome, Shiki-shi, Saitama-ken 353, (JP)
SHIGETA, Shiro, 147-28, Omori-aza-kubouchi, Fukushima-shi, Fukushima-ken 960-11, (JP)
KUROIWA, Yasuyuki, 2100, Togo, Mobara-shi, Chiba-ken 297, (JP)
OOKA, Hisayoshi, 2142, Togo, Mobara-shi, Chiba-ken 297, (JP)
LEGAL REPRESENTATIVE:
Thomsen, Dieter, Dr. (11923), Postbox 70 19 29, W-8000 Munchen 70, (DE)
PATENT (CC, No, Kind, Date): EP 327648 A1 890816 (Basic)
EP 327648 B1 930609
WO 8804669 880630
APPLICATION (CC, No, Date): EP 88900105 871214; WO 87JP976 871214
PRIORITY (CC, No, Date): JP 86296594 861215
DESIGNATED STATES: CH; DE; FR; GB; IT; LI; NL; SE
INTERNATIONAL PATENT CLASS: C07K-015/04; C12N-005/00; C12N-015/00; C12P-021/00; A61K-039/104; G01N-033/569; G01N-033/577;
LANGUAGE (Publication,Procedural,Application): English; English; Japanese
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	EPBBF1	310
CLAIMS B	(German)	EPBBF1	339
CLAIMS B	(French)	EPBBF1	365
SPEC B	(English)	EPBBF1	11819
Total word count - document A			0
Total word count - document B			12833
Total word count - documents A + B			12833

9/3,AB/32 (Item 5 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

00305164
Immunological adjuvant and process for preparing the same, pharmaceutical compositions, and a kit of parts.
Immunologisches Adjuvans und Verfahren zu seiner Herstellung, pharmazeutische Zubereitungen und Besteck.
Adjuvant immunologique et procede pour le preparer, compositions pharmaceutiques et trousse.
PATENT ASSIGNEE:
Berger, Frank M., (1053470), 515 East 72nd Street, Suite 30E, New York New York 10021, (US), (applicant designated states: AT;BE;CH;DE;FR;GB;IT;LI;LU;NL;SE)
INVENTOR:
Berger, Frank M., 515 East 72nd Street Suite 30E, New York, NY 10021, (US)
Lechevalier, Mary P., 28 Juniper Lane, Piscataway, NJ 08854, (US)
Bona, Constantin, 406 East 73rd Street, New York, NY 10021, (US)
LEGAL REPRESENTATIVE:
Weinhold, Peter, Dr. et al (12856), Patentanwalte Dr. V. Schmied-Kowarzik Dipl.-Ing. G. Dannenberg Dr. P. Weinhold Dr. D. Gudel Dipl.-Ing. S. Schubert Dr. P. Barz Siegfriedstrasse 8, D-8000 Munchen 40, (DE)
PATENT (CC, No, Kind, Date): EP 375808 A1 900704 (Basic)
APPLICATION (CC, No, Date): EP 88121909 881230;
PRIORITY (CC, No, Date): EP 88121909 881230
DESIGNATED STATES: AT; BE; CH; DE; FR; GB; IT; LI; LU; NL; SE
INTERNATIONAL PATENT CLASS: A61K-039/39; A61K-035/74;

ABSTRACT EP 375808 A1

A process is provided for preparing immunological adjuvant (which are unusual in that they do not contain mycolic acids, mycolic acid esters or lipopolysaccharides, and can increase the immune response in animals of soluble and particulate antigens without the presence of oil or oily vehicles, and without inducing adjuvant arthritis or other undesirable side effects) by solvent extraction from a species of Amycolata, a genus of filamentous branching bacteria known as Actinomycetes as well as pharmaceutical compositions containing such adjuvants, and a kit of parts comprising such adjuvants and an antigen.
ABSTRACT WORD COUNT: 95

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	EPABF1	252
SPEC A	(English)	EPABF1	7760
Total word count - document A			8012
Total word count - document B			0
Total word count - documents A + B			8012

9/3,AB/33 (Item 6 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

00232506
E87Ag ANTIGEN OF PSEUDOMONAS AERUGINOSA, MONOCLONAL ANTIBODY AGAINST IT, AND HYBRIDOMA.
E87AG-ANTIGEN DES PSEUDOMONAS AERUGINOSA, MONOKLONALE ANTIKORPER DAGEGEN UND HYBRIDOM.
ANTIGENE E87Ag DU PSEUDOMONAS AERUGINOSE, ANTICORPS MONOCLONAL CONTRE CET ANTIGENE ET HYBRIDOME.
PATENT ASSIGNEE:
TEIJIN LIMITED, (212523), 11 Minamihonmachi 1-chome Higashi-ku, Osaka-shi Osaka 541, (JP), (applicant designated states: AT;BE;CH;DE;FR;GB;IT;LI;NL;SE)
INVENTOR:
SAWADA, Shuzo 15-6, Tamadaira 5-chome, Hino-shi, Tokyo 191, (JP)
KAWAMURA, Takashi 22-17, Tamadaira 3-chome, Hino-shi, Tokyo 191, (JP)
MASUHO, Yasuhiko 20-2, Tamadaira 5-chome, Hino-shi, Tokyo 191, (JP)
TOMIBE, Katsuhiko 17-3, Kamiigusa 1-chome, Suginami-ku, Tokyo 167, (JP)
LEGAL REPRESENTATIVE:
Votier, Sidney David et al (37081), CARPMAELS & RANSFORD 43, Bloomsbury Square, London WC1A 2RA, (GB)
PATENT (CC, No, Kind, Date): EP 215131 A1 870325 (Basic)
EP 215131 A1 870916
EP 215131 B1 920617
WO 8605396 860925
APPLICATION (CC, No, Date): EP 86902010 860310; WO 86JP124 860310
PRIORITY (CC, No, Date): JP 8546445 850311; JP 8546446 850311
DESIGNATED STATES: AT; BE; CH; DE; FR; GB; IT; LI; NL; SE
INTERNATIONAL PATENT CLASS: A61K-039/104; A61K-039/40; C07K-015/04; C12N-005/00; C12N-015/00; C12P-021/00; G01N-033/569; G01N-033/577;

ABSTRACT EP 215131 A1
E87Ag ANTIGEN OF PSEUDOMONAS AERUGINOSA, MONOCLONAL ANTIBODY AGAINST IT, AND HYBRIDOMA.
E87Ag antigen of Pseudomonas aeruginosa contained in

lipopolysaccharides of Pseudomonas aeruginosa and comprising a polysaccharide portion mainly composed of neutral sugar units and having a molecular weight of about 27,000, human or mouse monoclonal antibody which can recognize said antigen, and mouse-man or mouse-mouse hybridoma producing said monoclonal antibody. The monoclonal antibody can be used for diagnosis and treatment of infectious diseases caused by Pseudomonas aeruginosa.
ABSTRACT WORD COUNT: 79

LANGUAGE (Publication,Procedural,Application): English; English; Japanese
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	EPBBF1	310
CLAIMS B	(German)	EPBBF1	332
CLAIMS B	(French)	EPBBF1	378
SPEC B	(English)	EPBBF1	5806
Total word count - document A			0
Total word count - document B			6826
Total word count - documents A + B			6826

9/3,AB/34 (Item 7 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

00231037
HYBRIDOMAS PRODUCING ANTI-PSEUDOMONAS AERUGINOSA HUMAN MONOCLONAL ANTIBODY.
HUMANER MONOKLONALER ANTIKORPER GEGEN PSEUDOMONAS AERUGINOSAGEGEN PSEUDOMONAS AERUGINOSA PRODUZIERENDE HYBRIDOMEN.
HYBRIODOMES PRODUISANT ANTI-PSEUDOMONAS AERUGINOSA HUMAN MONOCLONAL ANTIBODY.
PATENT ASSIGNEE:
TEIJIN LIMITED, (212523), 11 Minamihonmachi 1-chome Higashi-ku, Osaka-shi Osaka 541, (JP), (applicant designated states: AT;BE;CH;DE;FR;GB;IT;LI;NL;SE)
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LEGAL REPRESENTATIVE:
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PATENT (CC, No, Kind, Date): EP 233289 A1 870826 (Basic)
EP 233289 B1 930310
WO 8603754 860703
APPLICATION (CC, No, Date): EP 86900258 851220; WO 85JP698 851220
PRIORITY (CC, No, Date): JP 84273155 841226; JP 84273156 841226; JP 84274659 841228
DESIGNATED STATES: AT; BE; CH; DE; FR; GB; IT; LI; NL; SE
INTERNATIONAL PATENT CLASS: C07K-015/00; C12P-021/00; C12N-005/00; C12N-015/00; A61K-039/40; C12P-021/00; C12R-001/91
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CLAIMS B	(German)	EPBBF1	298
CLAIMS B	(French)	EPBBF1	364
SPEC B	(English)	EPBBF1	4131
Total word count - document A			0
Total word count - document B			5105
Total word count - documents A + B			5105

9/3,AB/35 (Item 1 from file: 357)
DIALOG(R)File 357:Derwent Biotechnology Abs

0259138 DBA Accession No.: 2000-13628
Immunogenic efficacy of differently produced recombinant vaccines candidates against Pseudomonas aeruginosa infections - involving outer membrane proteins
AUTHOR: von Specht B U; Gabelsberger J; Knapp B; Hundt E; Schmidt-Pilger H; Bauernsachs S; Lenz U; Domdey H
CORPORATE AFFILIATE: Univ.Freiburg Univ.Munich-Ludwig-Maximilians-Inst.Biochem.Genet. Chiron-Behring
CORPORATE SOURCE: Chirurgische Universitatsklinik der Universitat Freiburg, Chirurgische Forschung, Hugstetter Strasse 55, 79106 Freiburg, Germany. email:specht@ch11.ukl.uni-freiburg.de
JOURNAL: J.Biotechnol. (83, 1-2, 3-12) 2000
ISSN: 0168-1656 CODEN: JBITD4
LANGUAGE: English
ABSTRACT: Three different variants of the recombinant hybrid outer membrane protein OprF-OprI could be obtained in high yield after expression in Escherichia coli. The hybrid protein was modified N terminally, either with a minimal histidine tag or with a homologous sequence of OprF. Both recombinant proteins were purified by nickel chelate affinity chromatography under native and denaturing conditions, and this produced three suitable candidates for a vaccination trial, protein His-F-I, which was purified in its native as well as in its refolded form and the native purified N terminally extended protein, ex-F-I. In mice, significantly higher antibody titers and survival rates after challenge with Pseudomonas aeruginosa (ATCC 33348) were observed following immunization with protein His-F-I, purified under native conditions. It was concluded that the *OprF"**-*OprI"** *antigen"** would be a good candidate for a P. *aeruginosa"** vaccine in humans. However, for clinical use, the production and isolation of a highly purified OprF-OprI without a fusion component is essential. (29 ref)

9/3,AB/36 (Item 2 from file: 357)
DIALOG(R)File 357:Derwent Biotechnology Abs

0202022 DBA Accession No.: 96-12793
A novel mechanism to introduce surface antigens of pathogenic bacteria - lipopolysaccharide and outer membrane protein surface antigen simultaneous expression in attenuated Salmonella for potential recombinant vaccine (conference abstract)
AUTHOR: Kadurugamuwa J; Saxena A
CORPORATE AFFILIATE: Univ.Guelph
CORPORATE SOURCE: Department of Microbiology, CBDN, University of Guelph, Guelph, Ontario N1G 2W1, Canada.

JOURNAL: Abstr.Gen.Meet.Am.Soc.Microbiol. (96 Meet., 270) 1996
ISSN: 0067-2777 CODEN: 0005P
CONFERENCE PROCEEDINGS: American Society for Microbiology, 96th General Meeting, New Orleans, LA, 19-23 May, 1996.
LANGUAGE: English
ABSTRACT: A simple novel approach to incorporate surface antigens from several Gram-negative pathogens into a vaccine strain thereby constructing a heterologous hybrid strain with multiple protective *antigens"** was described. Intact surface *antigens"** such as lipopolysaccharide and *outer"** *membrane"** *proteins"** from Shigella flexneri and Pseudomonas *aeruginosa"** were transferred simultaneously into an attenuated Salmonella typhi strain using membrane vesicles to produce a hybrid carrying multiple surface antigens. The fusion and firm integration of foreign antigens into the surface of the vaccine strain was conclusively demonstrated using immunogold electron microscopy and Western immunoblots. Because the attenuated Salmonella is unable to replicate in mammalian cells, but able to direct antigens to the immune system, the method of direct integration of protective antigens of multiple pathogens on to a vaccine vehicle is a potential new approach for vaccine development. (0 ref)

9/3,AB/37 (Item 3 from file: 357)
DIALOG(R)File 357:Derwent Biotechnology Abs

0185707 DBA Accession No.: 95-12528
Pseudomonas aeruginosa outer membrane protein OprF as an expression vector for foreign epitopes: the effects of positioning and length on the antigenicity of the epitope - Plasmodium falciparum circumsporozoite protein epitope expression; recombinant vaccine or diagnostic agent production
AUTHOR: Wong R S Y; Wirtz R A; +Hancock R E W
CORPORATE AFFILIATE: Univ.British-Columbia Walter-Reed-Army-Inst.Res.
CORPORATE SOURCE: Department of Microbiology and Immunology, The University of British Columbia, 300-6174 University Boulevard, Vancouver, BC V6T 1Z3, Canada. email:bob@cbdn.ubc.ca
JOURNAL: Gene (158, 1, 55-60) 1995
ISSN: 0378-1119 CODEN: GENED6
LANGUAGE: English
ABSTRACT: A simple malarial epitope (the 4-amino-acid (aa) repeating epitope (NANP) of the circumsporozoite protein of Plasmodium falciparum) was used to show that a gene encoding Pseudomonas aeruginosa outer membrane protein-F (OprF) could be used in an expression vector to present foreign peptide sequences. 8 Permissive sites allowing the expression and surface display of the malarial epitope were identified throughout OprF. Using a monoclonal antibody (MAb), effects of positioning and length of the epitope on antigenicity were tested in the vector system. An epitope inserted at aa26 was more reactive with the epitope-specific MAb (more antigenic) in the context of whole cells, whereas those at aa213 and aa290 were more antigenic in the outer membrane. Epitopes inserted at aa188 and aa196 were moderately antigenic, while those at aa215 and aa310 showed low antigenicity in both assays. For aa26 and aa213, insertion of multiple copies of the epitope enhanced reactivity. This system should be useful in development of recombinant vaccines and diagnostic reagents. (20 ref)

9/3,AB/38 (Item 4 from file: 357)
DIALOG(R)File 357:Derwent Biotechnology Abs

0159428 DBA Accession No.: 94-01979 PATENT
Use of OprF protein in expression of heterologous oligopeptide on Gram-negative bacterial cell surface - Plasmodium sp. antigen gene cloning, expression and cell surface display on Escherichia coli or Pseudomonas aeruginosa for use as a malaria multivalent live recombinant vaccine
PATENT ASSIGNEE: Univ.British-Columbia 1993
PATENT NUMBER: WO 9324636 PATENT DATE: 931209 WPI ACCESSION NO.: 93-405827 (9350)
PRIORITY APPLIC. NO.: US 891495 APPLIC. DATE: 920529
NATIONAL APPLIC. NO.: WO 93CA227 APPLIC. DATE: 930527
LANGUAGE: English
ABSTRACT: A new live recombinant vaccine consists of a population of Gram-negative bacterium (preferably Escherichia coli or Pseudomonas aeruginosa) cells expressing 1 or more heterologous antigens on their surface. The antigen is preferably a malaria parasite antigen (e.g. the epitope PNANPNANPNA). A new DNA sequence has the formula P-N-R1-X-R2-C1, P-N1-R1 or P-N1-R1-C1, where N encodes an N-terminal portion of an outer membrane protein (OMP) with a signal peptide sequence, R1 and R2 are 1-4 restriction sites for insertion of up to 207 nucleotides encoding a target peptide, X encodes the central portion of the OMP and C encodes the OMP C-terminus. N1 and C1 encodes the N- and C-termini of the OMP OprF. The DNA is inserted into a vector (e.g. plasmid pRW3) with a regulatable Gram-negative promoter. A target epitope may be inserted in 1 or more linker regions. A Factor-X cleavage site may be fused to Met and a cecropin-melittin hybrid sequence. A selectable marker may also be included on the vector. The recombinant host may be used as a multivalent vaccine against e.g. P. aeruginosa and Plasmodium spp. infection. (45pp)

9/3,AB/39 (Item 5 from file: 357)
DIALOG(R)File 357:Derwent Biotechnology Abs

0117595 DBA Accession No.: 91-05237
Production and characterization of monoclonal antibodies to outer membrane proteins of Pseudomonas aeruginosa grown in iron-depleted media - hybridoma construction and monoclonal antibody production
AUTHOR: Smith A W; Wilton J; Clark S A; Alpar O; Melling J; +Brown M R W
CORPORATE SOURCE: Microbiology Research Group, Pharmaceutical Sciences Institute, Aston University, Aston Triangle, Birmingham B4 7ET, UK.
JOURNAL: J.Gen.Microbiol. (137, Pt.2, 227-36) 1991
CODEN: JGMIAN
LANGUAGE: English
ABSTRACT: High molecular mass, iron-regulated *outer"** *membrane"** *proteins"** (IROMPs) from Pseudomonas *aeruginosa"** AK1282 were used as *antigen"** for monoclonal antibody (MAb) preparation. 50 ug Antigen was emulsified in Freund's adjuvant and injected s.c. into F1 (CBA x BALB/c) mice. After 4 wk, 50 ug antigen in Freund's incomplete adjuvant was injected i.p. A final boost of 10 ug antigen was given i.v

4 wk later. After 3 days, the spleen cells of mice giving a strong antibody response were fused with NS1 myeloma cells, and hybridomas were screened for MAb production using ELISA. 5 MAbs were obtained which reacted with an 85 kDa IROMP separated by SDS-PAGE, but gave only low-level binding to whole P. aeruginosa cells by immunogold electron microscopy. Iodination of whole cells indicated that the 85 kDa IROMP was surface-exposed. The MAbs were only cross-reactive with clinical isolates representing 8 of the 17 International Antigenic Typing Scheme serotypes of P. aeruginosa, suggesting significant heterogeneity with respect to this IROMP. These results are applicable to the immunological intervention of the iron-uptake system of pathogenic bacteria. (36 ref)

9/3,AB/40 (Item 6 from file: 357)
DIALOG(R)File 357:Derwent Biotechnology Abs

0103492 DBA Accession No.: 90-06183 PATENT
Pseudomonas aeruginosa outer membrane lipoprotein - recombinant vaccine construction; outer membrane protein-I gene cloning and expression in Escherichia coli; monoclonal antibody preparation and hybridoma construction
PATENT ASSIGNEE: Behringwerke 1990
PATENT NUMBER: EP 357024 PATENT DATE: 900307 WPI ACCESSION NO.: 90-068794 (9010)
PRIORITY APPLIC. NO.: DE 3829616 APPLIC. DATE: 880901
NATIONAL APPLIC. NO.: EP 89115992 APPLIC. DATE: 890830
LANGUAGE: German
ABSTRACT: The following are claimed: Pseudomonas aeruginosa ATCC 33354 outer membrane protein-I (OMP-I) with a defined protein sequence, and its immunogenic fragments; a DNA sequence encoding OMP-I; and polyclonal or monoclonal antibody preparations obtained using OMP-I or its immunogenic fragments as *antigens"**. Plasmid pITaq containing the *OMP"**-I coding sequence is isolated by screening a P. *aeruginosa"** phage gene bank using monoclonal antibody 6A4, subcloning SalI fragments in plasmid pUC19, transformation of Escherichia coli with the recombinant plasmids, and isolating plasmid pITaq from a positive transformant. Recombinant E. coli containing plasmid pITaq produces recombinant OMP-I. OMP-I and its fragments are useful in recombinant vaccine construction against Pseudomonas infections. The DNA probes and monoclonal antibodies are useful in diagnosis, and the antibodies are also useful for passive immunization. (5pp)

9/3,AB/41 (Item 7 from file: 357)
DIALOG(R)File 357:Derwent Biotechnology Abs

0096612 DBA Accession No.: 89-14603 PATENT
Human monoclonal antibody, specific for Pseudomonas aeruginosa antigen, and its production - and application in bacterial disease diagnosis and therapy; hybridoma construction
PATENT ASSIGNEE: Sumitomo-Chem.; Sumitomo-Pharm. 1989
PATENT NUMBER: JP 1193300 PATENT DATE: 890803 WPI ACCESSION NO.: 89-266867 (8937)
PRIORITY APPLIC. NO.: JP 8817958 APPLIC. DATE: 880127
NATIONAL APPLIC. NO.: JP 8817958 APPLIC. DATE: 880127

LANGUAGE: Japanese
ABSTRACT: A human monoclonal antibody (MAb) specific for Pseudomonas *aeruginosa"** *outer"** *membrane"** *protein"** *antigen"**, *OMP"** -19, is new. The MAb binds to almost all serotypes (at least 70%), especially serotype M, of P. aeruginosa and can be administered to humans at 0.5-500 mg, preferably at 5-50 mg. The MAb is of IgG or IgM type and may be used in the diagnosis, prophylaxis or therapy of bacterial infections. Also new is the hybridoma YK-1H5, which produces the MAb and any derivatives of the hybridoma. The hybridoma is produced by fusing human B-lymphocytes, which can produce OMP-19-specific antibodies, with mouse myeloma cells or human mouse deriving heteromyeloma cells. The hybridoma is cultured and the MAb is collected. The MAb is inactivated by protease-K treatment and heating at 73 deg for 10 min in the presence of 1% SDS and 5% 2-mercaptoethanol. The MAb has mol.wt. 19,000 by SDS-PAGE under reducing conditions and mol.wt. 25,000 by electrophoresis under the same conditions. (12pp)

Set	Items	Description
S10	335	AU=(CRIPPS, A? OR CRIPPS A?)
S11	901	AU=(CLANCY, R? OR CLANCY R?)
S12	137	AU=(DUNKLEY, M? OR DUNKLEY M?)
S13	89	AU=(KYD, J? OR KYD J?)
S14	6	S10 AND S11 AND S12 AND S13
S15	236	S10 AND (S11 OR S12 OR S13)
S16	59	S11 AND (S12 OR S13)
S17	12	S12 AND S13
S18	1155	S10 OR S11 OR S12 OR S13
S19	9	(S15 OR S16 OR S18) AND S4
S20	21	(S14 OR S17 OR S19) NOT S8
S21	10	RD (unique items)

- Author(s)

>>>No matching display code(s) found in file(s): 65, 113

21/3,AB/1 (Item 1 from file: 65)
DIALOG(R)File 65:Inside Conferences

01819048 INSIDE CONFERENCE ITEM ID: CN018764662
Vaccine Strategies Against Pseudomonas aeruginosa Infection in the Lung
*Cripps, A. W."**; *Dunkley, M. L."**; *Clancy, R. L."**; *Kyd, J."**
CONFERENCE: New approaches to bacterial vaccine development-Symposium
BEHRING INSTITUTE MITTEILUNGEN, 1997; VOL 98 P: 262-268
The Institute, 1997
ISSN: 0301-0457
LANGUAGE: English DOCUMENT TYPE: Conference Papers
CONFERENCE EDITOR(S): Von Specht, B. U.
CONFERENCE SPONSOR: Behring Institute Research Communications
CONFERENCE LOCATION: Munich, Germany
CONFERENCE DATE: May 1996 (199605) (199605)

21/3,AB/2 (Item 2 from file: 65)
DIALOG(R)File 65:Inside Conferences

01080798 INSIDE CONFERENCE ITEM ID: CN010582635
Immunity to Pseudomonas *Aeruginosa"** Induced by *OprF"** Following Intestinal Immunization

*Cripps, A. W."**; *Dunkley, M. L."**; Taylor, D. C.; Cousins, S.
CONFERENCE: Advances in mucosal immunology-7th International congress of mucosal immunology
ADVANCES IN EXPERIMENTAL MEDICINE AND BIOLOGY, 1995; VOL 371//B P: 761-764
Plenum Press, 1995
ISSN: 0065-2598 ISBN: 0306450127
LANGUAGE: English DOCUMENT TYPE: Conference Selected papers
CONFERENCE EDITOR(S): Mestecky, J.
CONFERENCE LOCATION: Prague
CONFERENCE DATE: Aug 1992 (199208) (199208)
NOTE:
In 2 pts

14812577 PASCAL No.: 00-0494868

Catalase immunization from Pseudomonas aeruginosa enhances bacterial clearance in the rat lung

THOMAS Linda D; *DUNKLEY Margaret L"**; MOORE Ryka; REYNOLDS Simone; BASTIN David A; *KYD Jennelle M"**; CRIPPS Allan W
Gadi Research Centre, Division of Science and Design, University of Canberra, Canberra, ACT 2601, Australia; Discipline of Pathology, Faculty of Medicine and Health Sciences, University of Newcastle, Callaghan, NSW 2308, Australia

Journal: Vaccine, 2000, 19 (2-3) 348-357
Language: English

Pseudomonas aeruginosa is a common cause of infection in immunocompromised patients and is the major contributor to morbidity in individuals with cystic fibrosis (CF). The antibiotic resistance shown by this pathogen and morbidity in patients with chronic infection has encouraged investigations into the development of a vaccine. This study reports the purification of a 60 kDa protein, isolated from a mucoid strain of P aeruginosa, identified by amino acid sequence analysis as the catalase protein (KatA). A rat model of acute P. aeruginosa respiratory infection was used to investigate the immunogenicity of KatA and determine the potential of mucosal immunization with KatA to protect against infection. Immunization regimens compared a single intra-Peyer's patch (IPP) immunization with an IPP primary inoculation followed by an intratracheal boost to the lungs. Mucosal immunization with KatA resulted in significant pulmonary clearance of both homologous ($p < 0.001$) and heterologous ($p < 0.05$) strains of P. aeruginosa, Both immunization regimens enhanced bacterial clearance, increased the rate of recruitment of phagocytes to the bronchoalveoli and induced KatA-specific antibody. However, the regimen that included a boost induced a more effective immune response that also resulted in better clearance of P. aeruginosa from the lungs. Mucosal immunization induced KatA- specific antibodies in the serum and the bronchoalveolar lavage, and KatA-specific lymphocyte proliferation in vitro in cells isolated from the mesenteric lymph nodes of immunized rats. The data presented suggests that KatA has the potential to afford a protective immune response against pulmonary infection by P. aeruginosa.

21/3,AB/4 (Item 2 from file: 144)
DIALOG(R)File 144:Pascal

14485498 PASCAL No.: 00-0147422
A P5 peptide that is homologous to peptide 10 of *OprF"** from Pseudomonas *aeruginosa"** enhances clearance of nontypeable Haemophilus influenzae from acutely infected rat lung in the absence of detectable peptide-specific antibody
WEBB D C; *CRIPPS A W"**
The Gadi Research Center, Faculty of Applied Science and Design, University of Canberra, Canberra City, Australian Capital Territory 2601, Australia; The Membrane Biochemistry Group, Division of Biochemistry and Molecular Biology, John Curtin School of Medical Research, Australian National University, Canberra City, Australian Capital Territory 2601, Australia
Journal: Infection and immunity, 2000, 68 (1) 377-381
Language: English
Nontypeable Haemophilus influenzae (NTHi) is an opportunistic pathogen associated with otitis media and the exacerbation of chronic bronchitis. This study reports the vaccine potential of three peptides representing conserved regions of the NTHi P5 outer membrane protein which have been fused to a promiscuous measles virus F protein T-cell eptitope (MVF). The peptides correspond to a region in surface loop one (MVF/L1A), the central region of loop four (MVF/L4), and a C-terminal region homologous to peptide 10 of *OprF"** from Pseudomonas *aeruginosa"** (MVF/H3). Immunization of rats with MVF/H3 was the most efficacious in significantly reducing the number of viable NTHi in both the broncho-alveolar lavage fluid (74%) and lung homogenates (70%), compared to control rats. Importantly, despite significantly increased rates of clearance, immunization with MVF/H3 elicited poor antibody responses, suggesting that cell-mediated rather than humoral responses play an important role in the enhanced clearance of NTHi in this model.

21/3,AB/5 (Item 3 from file: 144)
DIALOG(R)File 144:Pascal

12238537 PASCAL No.: 95-0462639
Enhanced respiratory clearance of nontypeable Haemophilus influenzae following mucosal immunization with P6 in a rat model
*KYD J M"**; *DUNKLEY M L"**; CRIPPS A W
Univ. Newcastle, fac. medicine, discipline pathology, Callaghan N.S.W. 2308, Australia
Journal: Infection and immunity, 1995, 63 (8) 2931-2940
Language: English
Nontypeable Haemophilus influenzae (NTHi) is a common cause of infection of the respiratory tract in children and adults. The search for an effective vaccine against this pathogen has focused on components of the outer membrane, and peptidoglycan-associated lipoprotein P6 is among the proposed candidates. This study investigated the immunogenicity of P6 in a rat respiratory model. P6 was purified from two strains of NTHi, one capsule-deficient strain and an H. influenzae type b strain, and assessed for clearance of both homologous and heterologous bacterial strains following mucosal immunization. A protective immune response was determined

by enhancement of pulmonary clearance of live bacteria and an increased rate of recruitment of phagocytic cells to the lungs. This was most effective when Peyer's patch immunization was accompanied by an intratracheal (IT) boost. However, the rate of bacterial clearance varied between strains, which suggests some differences in anti-P6 immunological defenses recognizing the expression of the highly conserved P6 lipoprotein on the bacterial surface in some strains. P6-specific antibodies in both serum and bronchoalveolar lavage fluid were cross-reactive and did not differ significantly in strain specificity, demonstrating that difference in clearance was unlikely due to differences in P6-specific antibody levels. Serum homologous and heterologous P6-antibody was bactericidal against NTHi even when enhanced clearance had not been observed. Peyer's patch immunization induced P6-specific CD4 SUP + T-helper cell proliferation in lymphocytes isolated from the mesenteric lymph nodes. An IT boost increased the level of P6-specific antibodies in serum and bronchoalveolar lavage fluid, and P6-specific mesenteric node lymphocyte proliferation. Cells from rats immunized with P6 demonstrated proliferation following stimulation with P6 from nonhomologous strains ; however, there was some variation in proliferative responses to P6 from differen

21/3,AB/6 (Item 1 from file: 440)
DIALOG(R)File 440:Current Contents Search(R)

12540407 GENUINE ARTICLE#: 412DH NUMBER OF REFERENCES: 61
TITLE: Mucosal immunity in the lung and upper airway
AUTHOR(S): *Kyd JM (REPRINT)"**; Foxwell AR; *Cripps AW"**
AUTHOR(S) E-MAIL: kyd@scides.canberra.edu.au
CORPORATE SOURCE: Univ Canberra, Div Sci & Design, /Canberra/ACT 2601/Australia/ (REPRINT); Univ Canberra, Div Sci & Design, /Canberra/ACT 2601/Australia/
PUBLICATION TYPE: JOURNAL
PUBLICATION: VACCINE, 2001, V19, N17-19,SI (MAR 21), P2527-2533
PUBLISHER: ELSEVIER SCI LTD, THE BOULEVARD, LANGFORD LANE, KIDLINGTON, OXFORD OX5 1GB, OXON, ENGLAND
ISSN: 0264-410X
LANGUAGE: English DOCUMENT TYPE: ARTICLE
ABSTRACT: The mucosal surfaces of the lungs and upper airways are common sites for infection. Extensive studies of the mechanisms associated with immune responses in the respiratory tract have found that understanding the: system is challenging and involves many complex interactions to prevent and eliminate infection. Immune protection against diseases transmitted through the respiratory tract requires an understanding of the important aspects associated with beneficial, detrimental or ineffective immune responses. Two critical aspects of an immune response against a pathogen are that of the inductive stage, either induced by vaccination or primary infection. and the effector stage, the ability to recognise, respond to and eliminate the infection without detriment to the host. An immunisation strategy must not only have a measure of the induced antigen specific response. but this response must also be protective. (C) 2001 Elsevier Science Ltd. All rights reserved.

21/3,AB/7 (Item 2 from file: 440)
DIALOG(R)File 440:Current Contents Search(R)

11051350 GENUINE ARTICLE#: 250PR NUMBER OF REFERENCES: 25
TITLE: Investigation of mucosal immunisation in pulmonary clearance of Moraxella (Branhamella) catarrhalis
AUTHOR(S): *Kyd J (REPRINT)"**; John A; *Cripps A"**; Murphy TF
AUTHOR(S) E-MAIL: kyd@science.canberra.edu.au
CORPORATE SOURCE: Univ Canberra, Gadi Res Ctr, /Canberra/ACT 2601/Australia/ (REPRINT); Univ Canberra, Gadi Res Ctr, /Canberra/ACT 2601/Australia/; SUNY Buffalo, Div Infect Dis, /Buffalo//NY/14215; SUNY Buffalo, Dept Microbiol, /Buffalo//NY/14215
PUBLICATION TYPE: JOURNAL
PUBLICATION: VACCINE, 1999, V18, N5-6 (OCT 14), P398-406
PUBLISHER: ELSEVIER SCI LTD, THE BOULEVARD, LANGFORD LANE, KIDLINGTON, OXFORD OX5 1GB, OXON, ENGLAND
ISSN: 0264-410X
LANGUAGE: English DOCUMENT TYPE: ARTICLE
ABSTRACT: Moraxella (Branhamella) catarrhalis is a common cause of otitis media in children and respiratory infection in adults with chronic obstructive pulmonary disease. To identify immune responses that may facilitate the development of a mucosal vaccine, a mouse model to study pulmonary responses was established. Regimes involving intra-Peyer's patch, intratracheal and intranasal routes of immunisation with killed M. catarrhalis were investigated. A mucosal immunisation regime of a primary intra-Peyer's patch immunisation with an intratracheal boost resulted in significantly enhanced pulmonary clearance of bacteria compared to controls following an intratracheal challenge with live bacteria. Additional intratracheal boosts did not induce further enhancement of clearance. Intra-Peyer's patch immunisation alone, intratracheal and intranasal immunisations did not induce enhanced clearance. The levels of specific IgG and IgA in serum and bronchoalveolar lavage fluid correlated with pulmonary clearance. The present study showed that mucosal immunisation induced enhanced pulmonary clearance of M. catarrhalis following live bacterial challenge. This mucosal immunisation model has demonstrated that a mucosal vaccine, particularly an oral vaccine, would be feasible. (C) 1999 Elsevier Science Ltd. All rights reserved.

21/3,AB/8 (Item 3 from file: 440)
DIALOG(R)File 440:Current Contents Search(R)

06872462 GENUINE ARTICLE#: TD021 NUMBER OF REFERENCES: 84
TITLE: PULMONARY IMMUNITY TO PSEUDOMONAS AERUGINOSA
AUTHOR(S): *CRIPPS AW"**; *DUNKLEY ML"**; *CLANCY RL"**; *KYD J"**
CORPORATE SOURCE: UNIV CANBERRA,FAC APPL SCI,POB 1/BELCONNEN/ACT 2616/AUSTRALIA/ (Reprint); UNIV NEWCASTLE,FAC MED & HLTH SCI/NEWCASTLE/NSW2308/AUSTRALIA/; AUSTRALIAN INST MUCOSAL IMMUNOL/NEWCASTLE/NSW/AUSTRALIA/
PUBLICATION: IMMUNOLOGY AND CELL BIOLOGY, 1995, V73, N5 (OCT), P418-424
ISSN: 0818-9641
LANGUAGE: ENGLISH DOCUMENT TYPE: ARTICLE
ABSTRACT: Pseudomonas aeruginosa, an oportunistic bacterial pathogen, is a major course of morbidity and mortality in subjects with compromised respiratory function despite the significant advances in therapeutic practices. The bacteria produces an armoury of products which modify its infective niche to ensure bacterial survival. The role of antibody in protection against pulmonary infection remains poorly defined.

Protection appears to be associated with opsonizing antibody whilst some other antibody responses may be deleterious and promote further lung damage. Cell mediated responses are clearly important in protection against infection. This review proposes a vaccine strategy aimed at enhancing specific T cell responses in the lung which, through T cell-derived cytokines, drive the recruitment of neutrophils to the lung and the subsequent activation of these cells results in the clearance of bacteria from the lung.

21/3,AB/9 (Item 1 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

00979971
ANTIGEN
ANTIGEN
ANTIGENE
PATENT ASSIGNEE:
AUSPHARM INTERNATIONAL LIMITED, (1266032), Level 2, 220 St. George's Terrace, Perth, W.A. 6000, AU\(Applicant designated states: , AT; BE; CH; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI; LU; MC; NL; PT; SE)
Chapman, Paul, William, (2312661), Kilburn & Strode, 20 Red Lion Street, London WC1R 4PJ, GB\(Applicant designated states: , GB)
INVENTOR:
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*KYD, Jannelle, University of Canberra"**, Faculty of Applied Science, Canberra, ACT 2601, (AU)
*DUNKLEY, Margaret, Australian Inst. Mucosal Immun."**, David Maddison Bding, Level 4, King Watt Streets, Newcastle, 2300, (AU)
*CLANCY, Robert, L., Univ. of Newcastle"**, Royal Newcastle Hospital, Watt Street, Newcastle, 2300, (AU
LEGAL REPRESENTATIVE:
Chapman, Paul William et al (73612), Kilburn & Strode, 20 Red Lion Street , London WC1R 4PJ, (GB)
PATENT (CC, No, Kind, Date): EP 980389 A1 000223 (Basic)
WO 9832769 980730
APPLICATION (CC, No, Date): EP 98901378 980126; WO 98GB217 980126
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New protein antigen from Pseudomonas aeruginosa and its antigenic fragments - used in the detection and diagnosis of Pseudomonas aeruginosa, particularly in cystic fibrosis individual
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ABSTRACT: A protein antigen (1), isolated from Pseudomonas aeruginosa, and with a mol.wt. of 60,000 - 65,000, is claimed, that has a given variable N-terminal sequence. Also claimed is an antigenic fragment (2) of this protein, which also has a given variable sequence. The claims also cover an antigen composition (3) containing the protein, or the antigen, along with at least one other P. aeruginosa antigen. (1), (2) and (3) are claimed for use in the in vitro diagnosis and detection of P. aeruginosa, by bringing any one of them into contact with a mucous test sample, and ascertaining the presence or absence of antibodies to the bacteria. This is particularly useful in individuals suffering from cystic fibrosis. Also claimed is a kit for this procedure consisting of (1), (2) or (3). The claims also cover a vaccine composition that contains (1), (2) or (3), and optionally one or more adjuvants and that elicits an immune response in a subject. The claims extend to the use of (1), (2) or (3) in the preparation of, or use as medicines or vaccines. Finally the claims cover any protein containing the given protein sequence. (22pp)
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